

## MULTILAYER CERAMIC CAPACITORS

## PARTS NUMBER

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J | M | K | 3 | 1 | 6 | △ | B | J | I | 0 | 6 | M | L | — | T | △ |
| ① | ② | ③ | ④ | ⑤ | ⑥ |   | ⑦ | ⑧ | ⑨ | ⑩ | ⑪ | ⑫ |   |   |   |   |

△=Blank space

## ① Rated voltage

| Code | Rated voltage[VDC] |
|------|--------------------|
| P    | 2.5                |
| A    | 4                  |
| J    | 6.3                |
| L    | 10                 |
| E    | 16                 |
| T    | 25                 |
| G    | 35                 |
| U    | 50                 |
| H    | 100                |
| Q    | 250                |
| S    | 630                |
| X    | 2000               |

## ② Series name

| Code | Series name                                     |
|------|-------------------------------------------------|
| M    | Multilayer ceramic capacitor                    |
| V    | Multilayer ceramic capacitor for high frequency |
| W    | LW reverse type multilayer capacitor            |

## ⑤ Dimension tolerance

| Code | Type | L[mm]          | W[mm]           | T[mm]                                     |
|------|------|----------------|-----------------|-------------------------------------------|
| △    | ALL  | Standard       | Standard        | Standard                                  |
| A    | 063  | 0.6±0.05       | 0.3±0.05        | 0.3±0.05                                  |
|      | 105  | 1.0±0.10       | 0.5±0.10        | 0.5±0.10                                  |
|      | 107  | 1.6±0.15/—0.05 | 0.8±0.15/—0.05  | 0.8±0.15/—0.05                            |
|      | 212  | 2.0±0.15/—0.05 | 1.25±0.15/—0.05 | 0.45±0.05<br>0.85±0.10<br>1.25±0.15/—0.05 |
|      | 316  | 3.2±0.20       | 1.6±0.20        | 0.85±0.10<br>1.6±0.20                     |
|      | 325  | 3.2±0.30       | 2.5±0.30        | 2.5±0.30                                  |
| B    | 063  | 0.6±0.09       | 0.3±0.09        | 0.3±0.09                                  |
|      | 105  | 1.0±0.15/—0.05 | 0.5±0.15/—0.05  | 0.5±0.15/—0.05                            |
|      | 107  | 1.6±0.20/—0    | 0.8±0.20/—0     | 0.45±0.05<br>0.8±0.20/—0                  |
|      | 212  | 2.0±0.20/—0    | 1.25±0.20/—0    | 0.45±0.05<br>0.85±0.10<br>1.25±0.20/—0    |
|      | 316  | 3.2±0.30       | 1.6±0.30        | 1.6±0.30                                  |
|      | 105  | 1.0±0.20/—0    | 0.5±0.20/—0     | 0.5±0.20/—0                               |
| C    | 063  | 0.6±0.25/—0    | 0.3±0.25/—0     | 0.3±0.25/—0                               |
| E    | 105  | 1.0±0.30/—0    | 0.5±0.30/—0     | 0.5±0.30/—0                               |

Note: cf. STANDARD EXTERNAL DIMENSIONS

△=Blank space

## ⑥ Temperature characteristics code

## ■ High dielectric type (Excluding Super low distortion multilayer ceramic capacitor)

| Code  | Applicable standard | Temperature range[°C] | Ref. Temp.[°C] | Capacitance change | Capacitance tolerance | Tolerance code |
|-------|---------------------|-----------------------|----------------|--------------------|-----------------------|----------------|
| BJ    | JIS B               | —25~+ 85              | 20             | ±10%               | ±10%                  | K              |
|       | EIA X5R             | —55~+ 85              | 25             | ±15%               | ±20%                  | M              |
| B7    | EIA X7R             | —55~+ 125             | 25             | ±15%               | ±10%                  | K              |
|       |                     |                       |                |                    | ±20%                  | M              |
| C6    | EIA X6S             | —55~+ 105             | 25             | ±22%               | ±10%                  | K              |
|       |                     |                       |                |                    | ±20%                  | M              |
| C7    | EIA X7S             | —55~+ 125             | 25             | ±22%               | ±10%                  | K              |
|       |                     |                       |                |                    | ±20%                  | M              |
| LD(※) | EIA X5R             | —55~+ 85              | 25             | ±15%               | ±10%                  | K              |
|       |                     |                       |                |                    | ±20%                  | M              |

Note : ※LD Low distortion high value multilayer ceramic capacitor

△=Blank space

## ③ End termination

| Code | End termination                             |
|------|---------------------------------------------|
| K    | Plated                                      |
| S    | Cu Internal Electrodes (For High Frequency) |

## ④ Dimension (L × W)

| Type | Dimensions (L × W) [mm] | EIA (inch) |
|------|-------------------------|------------|
| 021  | 0.25 × 0.125            | 008004     |
| 042  | 0.4 × 0.2               | 01005      |
| 063  | 0.6 × 0.3               | 0201       |
| 105  | 1.0 × 0.5               | 0402       |
|      | 0.52 × 1.0 ※            | 0204       |
|      | 1.6 × 0.8               | 0603       |
| 107  | 0.8 × 1.6 ※             | 0306       |
|      | 2.0 × 1.25              | 0805       |
|      | 1.25 × 2.0 ※            | 0508       |
| 316  | 3.2 × 1.6               | 1206       |
| 325  | 3.2 × 2.5               | 1210       |
| 432  | 4.5 × 3.2               | 1812       |

Note : ※LW reverse type (□WK) only

## ■ Temperature compensating type

| Code | Applicable standard | Temperature range[°C] | Ref. Temp.[°C] | Capacitance change | Capacitance tolerance | Tolerance code |
|------|---------------------|-----------------------|----------------|--------------------|-----------------------|----------------|
| CG   | EIA C0G             | —55~+ 125             | 25             | 0±30ppm/°C         | ±0.05pF               | A              |
|      |                     |                       |                |                    | ±0.1pF                | B              |
|      |                     |                       |                |                    | ±0.25pF               | C              |
|      |                     |                       |                |                    | ±0.5pF                | D              |
| UJ   | JIS UJ              | —55~+ 125             | 20             | —750±120ppm/°C     | ±5%                   | J              |
|      |                     |                       |                |                    | ±0.25pF               | C              |
|      | EIA U2J             |                       | 25             |                    | ±0.5pF                | D              |
|      | JIS UK              | —55~+ 125             | 20             |                    | ±5%                   | J              |
| UK   | EIA U2K             | —55~+ 125             | 25             | —750±250ppm/°C     | ±0.25pF               | C              |
|      |                     |                       |                |                    |                       |                |

## ⑥ Series code

## • Super low distortion multilayer ceramic capacitor

| Code | Series code |
|------|-------------|
| SD   | Standard    |

## • Medium-High Voltage Multilayer Ceramic Capacitor

| Code | Series code |
|------|-------------|
| SD   | Standard    |

## ⑦ Nominal capacitance

| Code (example) | Nominal capacitance |
|----------------|---------------------|
| 0R5            | 0.5pF               |
| 010            | 1pF                 |
| 100            | 10pF                |
| 101            | 100pF               |
| 102            | 1,000pF             |
| 103            | 10,000pF            |
| 104            | 0.1 μF              |
| 105            | 1.0 μF              |
| 106            | 10 μF               |
| 107            | 100 μF              |

Note : R=Decimal point

## ⑧ Capacitance tolerance

| Code | Capacitance tolerance |
|------|-----------------------|
| A    | ±0.05pF               |
| B    | ±0.1pF                |
| C    | ±0.25pF               |
| D    | ±0.5pF                |
| F    | ±1pF                  |
| G    | ±2%                   |
| J    | ±5%                   |
| K    | ±10%                  |
| M    | ±20%                  |
| Z    | +80/—20%              |

## ⑨ Thickness

| Code | Thickness[mm]         |
|------|-----------------------|
| K    | 0.125                 |
| H    | 0.13                  |
| E    | 0.18                  |
| C    | 0.2                   |
| D    | 0.2                   |
| P    | 0.3                   |
| T    | 0.3                   |
| K    | 0.45(107type or more) |
| V    | 0.5                   |
| W    | 0.5                   |
| A    | 0.8                   |
| D    | 0.85(212type or more) |
| F    | 1.15                  |
| G    | 1.25                  |
| L    | 1.6                   |
| N    | 1.9                   |
| Y    | 2.0 max               |
| M    | 2.5                   |

## ⑩ Special code

| Code | Special code |
|------|--------------|
| —    | Standard     |

## ⑪ Packaging

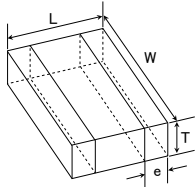
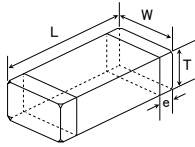
| Code | Packaging                                                               |
|------|-------------------------------------------------------------------------|
| F    | φ 178mm Taping (2mm pitch)                                              |
| T    | φ 178mm Taping (4mm pitch)                                              |
| P    | φ 178mm Taping (4mm pitch, 1000 pcs/reel)<br>325 type(Thickness code M) |
| R    | φ 178mm Taping (2mm pitch) 105type only<br>(Thickness code E,H)         |
| W    | φ 178mm Taping (1mm pitch) 021/042type only                             |

## ⑫ Internal code

| Code | Internal code |
|------|---------------|
| △    | Standard      |

## for General Electronic Equipment

## STANDARD EXTERNAL DIMENSIONS



※ LW reverse type

| Type( EIA )    | Dimension [mm] |             |              |    |               |
|----------------|----------------|-------------|--------------|----|---------------|
|                | L              | W           | T            | *1 | e             |
| □MK021(008004) | 0.25±0.013     | 0.125±0.013 | 0.125±0.013  | K  | 0.0675±0.0275 |
| □VS021(008004) | 0.25±0.013     | 0.125±0.013 | 0.125±0.013  | K  | 0.0675±0.0275 |
| □MK042(01005)  | 0.4±0.02       | 0.2±0.02    | 0.2±0.02     | C  | 0.1±0.03      |
| □VS042(01005)  | 0.4±0.02       | 0.2±0.02    | 0.2±0.02     | C  | 0.1±0.03      |
| □MK063(0201)   | 0.6±0.03       | 0.3±0.03    | 0.3±0.03     | P  | 0.15±0.05     |
|                |                |             |              | T  |               |
|                |                |             | 0.13±0.02    | H  |               |
|                |                |             | 0.18±0.02    | E  |               |
|                |                |             | 0.2±0.02     | C  |               |
|                |                |             | 0.3±0.03     | P  |               |
|                |                |             | 0.5±0.05     | V  |               |
| □MK105(0402)   | 1.0±0.05       | 0.5±0.05    | 0.5±0.05     | W  | 0.25±0.10     |
| □VK105(0402)   | 1.0±0.05       | 0.5±0.05    | 0.5±0.05     | W  | 0.25±0.10     |
| □WK105(0204)※  | 0.52±0.05      | 1.0±0.05    | 0.3±0.05     | P  | 0.18±0.08     |
| □MK107(0603)   | 1.6±0.10       | 0.8±0.10    | 0.45±0.05    | K  | 0.35±0.25     |
|                |                |             | 0.8±0.10     | A  |               |
| □WK107(0306)※  | 0.8±0.10       | 1.6±0.10    | 0.5±0.05     | V  | 0.25±0.15     |
|                |                |             | 0.45±0.05    | K  |               |
| □MK212(0805)   | 2.0±0.10       | 1.25±0.10   | 0.85±0.10    | D  | 0.5±0.25      |
|                |                |             | 1.25±0.10    | G  |               |
| □WK212(0508)※  | 1.25±0.15      | 2.0±0.15    | 0.85±0.10    | D  | 0.3±0.2       |
|                |                |             | 0.85±0.10    | D  |               |
|                |                |             | 1.15±0.10    | F  |               |
| □MK316(1206)   | 3.2±0.15       | 1.6±0.15    | 1.6±0.20     | L  |               |
|                |                |             | 0.85±0.10    | D  |               |
|                |                |             | 1.15±0.10    | F  |               |
|                |                |             | 1.9±0.20     | N  |               |
|                |                |             | 1.9+0.1/-0.2 | Y  |               |
|                |                |             | 2.5±0.20     | M  |               |
| □MK432(1812)   | 4.5±0.40       | 3.2±0.30    | 2.0+0/-0.30  | Y  | 0.6±0.4       |
|                |                |             | 2.5±0.20     | M  | 0.9±0.6       |

Note : ※ LW reverse type, \*1.Thickness code

## STANDARD QUANTITY

| Type | EIA (inch) | Dimension |      | Standard quantity [pcs] |               |
|------|------------|-----------|------|-------------------------|---------------|
|      |            | [mm]      | Code | Paper tape              | Embossed tape |
| 021  | 008004     | 0.125     | K    | —                       | 50000         |
| 042  | 01005      | 0.2       | C    | —                       | 40000         |
|      |            |           | D    | —                       |               |
| 063  | 0201       | 0.3       | P    | 15000                   | —             |
|      |            |           | T    | —                       |               |
| 105  | 0402       | 0.13      | H    | —                       | 20000         |
|      |            | 0.18      | E    | —                       | 15000         |
|      |            | 0.2       | C    | 20000                   | —             |
|      |            | 0.3       | P    | 15000                   | —             |
|      |            |           | V    | —                       |               |
|      |            | 0.5       | W    | 10000                   | —             |
|      |            | 0204 ※    | P    | —                       |               |
|      |            | 0.30      | P    | —                       |               |
|      |            | 0.45      | K    | 4000                    | —             |
|      |            | 0.8       | A    | —                       |               |
| 107  | 0603       | 0.45      | K    | 4000                    | —             |
|      |            | 0.8       | A    | —                       |               |
|      |            | 0306 ※    | V    | —                       | 4000          |
| 212  | 0805       | 0.45      | K    | 4000                    | —             |
|      |            | 0.85      | D    | —                       |               |
|      |            | 1.25      | G    | —                       | 3000          |
|      |            | 0.85      | D    | 4000                    | —             |
| 316  | 1206       | 0.85      | D    | 4000                    | —             |
|      |            | 1.15      | F    | —                       | 3000          |
|      |            | 1.6       | L    | —                       | 2000          |
|      |            | 0.85      | D    | —                       |               |
| 325  | 1210       | 1.15      | F    | —                       |               |
|      |            | 1.9       | N    | —                       | 2000          |
|      |            | 2.0 max   | Y    | —                       |               |
|      |            | 2.5       | M    | —                       | 1000          |
|      |            | 2.0 max   | Y    | —                       | 1000          |
| 432  | 1812       | 2.5       | M    | —                       | 500           |

Note : ※ LW Reverse type (□WK)

## for General Electronic Equipment

## PARTS NUMBER

- All the Multilayer Ceramic Capacitors of the catalog lineup are RoHS Compliant.
- Capacitance tolerance code is applied to [ ] of part number.

Note)

\*1 We may provide X7R/X7S for some items according to the individual specification.

\*2 The exchange of individual specification is necessary depending on the application and circuit condition. Please contact TAIYO YUDEN sales channels.

\*3 The size standard should look at ④Dimension, ⑤Dimension tolerance, and ③Thickness, and STANDARD EXTERNAL DIMENSIONS.

## Multilayer Ceramic Capacitors (High dielectric type)

## 021TYPE

[Temperature Characteristic BJ : X5R(−55~+85°C)] 0.125mm thickness(K)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| EMK021 BJ221□C-W |               | 16                | X5R                         | 220 p           | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| EMK021 BJ471□C-W |               |                   | X5R                         | 470 p           | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| EMK021 BJ102□C-W |               |                   | X5R                         | 1000 p          | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| JMK021 BJ222□C-W |               | 6.3               | X5R                         | 2200 p          | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| JMK021 BJ472□C-W |               |                   | X5R                         | 4700 p          | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| JMK021 BJ103□C-W |               |                   | X5R                         | 0.01 μ          | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |
| AMK021 BJ223MK-W |               | 4                 | X5R                         | 0.022 μ         | ±10, ±20                  | 10        | 150                       | 0.125±0.013                  | R                               |

## 042TYPE

[Temperature Characteristic BJ : B(−25~+85°C)/X5R(−55~+85°C)] 0.2mm thickness(C)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F]              | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|------------------------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| EMK042 BJ101□C-W |               |                   |                             | X5R<br>100 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ151□C-W |               |                   |                             | X5R<br>150 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ221□C-W |               |                   |                             | X5R<br>220 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ331□C-W |               |                   |                             | X5R<br>330 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ471□C-W |               |                   |                             | X5R<br>470 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ681□C-W |               |                   |                             | X5R<br>680 p                 | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ102□C-W |               | 16                | B                           | X5R<br>1000 p                | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 BJ152□C-W |               |                   |                             | X5R<br>1500 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| EMK042 BJ222□C-W |               |                   |                             | X5R<br>2200 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| EMK042 BJ332□C-W |               |                   |                             | X5R<br>3300 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| EMK042 BJ472□C-W |               |                   |                             | X5R<br>4700 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| EMK042 BJ682□C-W |               |                   |                             | X5R<br>6800 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| EMK042 BJ103□C-W |               |                   |                             | X5R<br>0.01 μ                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ101□C-W |               |                   |                             | X5R <sup>(1)</sup><br>100 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ151□C-W |               |                   |                             | X5R <sup>(1)</sup><br>150 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ221□C-W |               |                   |                             | X5R <sup>(1)</sup><br>220 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ331□C-W |               |                   |                             | X5R <sup>(1)</sup><br>330 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ471□C-W |               |                   |                             | X5R <sup>(1)</sup><br>470 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ681□C-W |               |                   |                             | X5R <sup>(1)</sup><br>680 p  | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ102□C-W |               | 10                | B                           | X5R <sup>(1)</sup><br>1000 p | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 BJ152□C-W |               |                   |                             | X5R<br>1500 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ222□C-W |               |                   |                             | X5R<br>2200 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ332□C-W |               |                   |                             | X5R<br>3300 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ472□C-W |               |                   |                             | X5R<br>4700 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ682□C-W |               |                   |                             | X5R<br>6800 p                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| LMK042 BJ103□C-W |               |                   |                             | X5R<br>0.01 μ                | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ152□C-W |               |                   |                             | X5R <sup>(1)</sup><br>1500 p | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ222□C-W |               |                   |                             | X5R <sup>(1)</sup><br>2200 p | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ332□C-W |               |                   |                             | X5R <sup>(1)</sup><br>3300 p | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ472□C-W |               |                   |                             | X5R <sup>(1)</sup><br>4700 p | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ682□C-W |               |                   |                             | X5R <sup>(1)</sup><br>6800 p | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ103□C-W |               |                   |                             | X5R <sup>(1)</sup><br>0.01 μ | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ223□C-W |               |                   |                             | X5R<br>0.022 μ               | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ473□C-W |               |                   |                             | X5R<br>0.047 μ               | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| JMK042 BJ104□C-W |               |                   |                             | X5R<br>0.1 μ                 | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| AMK042 BJ473□C-W |               | 4                 |                             | X5R<br>0.047 μ               | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |
| AMK042 BJ104□C-W |               |                   |                             | X5R<br>0.1 μ                 | ±10, ±20                  | 10        | 150                       | 0.2±0.02                     | R                               |

[Temperature Characteristic B7 : X7R(−55~+125°C)] 0.2mm thickness(C)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| EMK042 B7101□C-W |               | 16                | X7R                         | 100 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7151□C-W |               |                   | X7R                         | 150 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7221□C-W |               |                   | X7R                         | 220 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7331□C-W |               |                   | X7R                         | 330 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7471□C-W |               |                   | X7R                         | 470 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7681□C-W |               |                   | X7R                         | 680 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| EMK042 B7102□C-W |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7101□C-W |               |                   | X7R                         | 100 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7151□C-W |               |                   | X7R                         | 150 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7221□C-W |               |                   | X7R                         | 220 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7331□C-W |               |                   | X7R                         | 330 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7471□C-W |               |                   | X7R                         | 470 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7681□C-W |               |                   | X7R                         | 680 p           | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |
| LMK042 B7102□C-W |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 5         | 200                       | 0.2±0.02                     | R                               |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

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## for General Electronic Equipment

PARTS NUMBER

## 063TYPE

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.3mm thickness (P)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK063 BJ101[P]-F |               |                   | B X5R <sup>+)1</sup>        | 100 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ151[P]-F |               |                   | B X5R <sup>+)1</sup>        | 150 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ221[P]-F |               |                   | B X5R <sup>+)1</sup>        | 220 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ331[P]-F |               |                   | B X5R <sup>+)1</sup>        | 330 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ471[P]-F |               |                   | B X5R <sup>+)1</sup>        | 470 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ681[P]-F |               |                   | B X5R <sup>+)1</sup>        | 680 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ102[P]-F |               |                   | B X5R <sup>+)1</sup>        | 1000 p          | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ152[P]-F |               |                   | B X5R                       | 1500 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ222[P]-F |               |                   | B X5R                       | 2200 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ332[P]-F |               |                   | B X5R                       | 3300 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ472[P]-F |               |                   | B X5R                       | 4700 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ682[P]-F |               |                   | B X5R                       | 6800 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| UMK063 BJ103[P]-F |               |                   | B X5R                       | 0.01 μ          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| GMK063 BJ104[P]-F |               |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| TMK063 BJ152[P]-F |               |                   | B X5R                       | 1500 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ222[P]-F |               |                   | B X5R                       | 2200 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ332[P]-F |               |                   | B X5R                       | 3300 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ472[P]-F |               |                   | B X5R                       | 4700 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ682[P]-F |               |                   | B X5R                       | 6800 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ103[P]-F |               |                   | B X5R                       | 0.01 μ          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 BJ223[P]-F |               |                   | B X5R                       | 0.022 μ         | ±10, ±20                  | 7.5       | 200                       | 0.3±0.03                     | R                               |
| TMK063ABJ104[P]-F |               |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.05                     | R                               |
| EMK063 BJ152[P]-F |               |                   | B X5R <sup>+)1</sup>        | 1500 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ222[P]-F |               |                   | B X5R <sup>+)1</sup>        | 2200 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ332[P]-F |               |                   | B X5R <sup>+)1</sup>        | 3300 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ472[P]-F |               |                   | B X5R <sup>+)1</sup>        | 4700 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ682[P]-F |               |                   | B X5R <sup>+)1</sup>        | 6800 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ103[P]-F |               |                   | B X5R <sup>+)1</sup>        | 0.01 μ          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ153[P]-F |               |                   | X5R                         | 0.015 μ         | ±10, ±20                  | 7.5       | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ223[P]-F |               |                   | B X5R                       | 0.022 μ         | ±10, ±20                  | 7.5       | 200                       | 0.3±0.03                     | R                               |
| EMK063 BJ333[P]-F |               |                   | X5R                         | 0.033 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| EMK063 BJ473[P]-F |               |                   | X5R                         | 0.047 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| EMK063 BJ683[P]-F |               |                   | X5R                         | 0.068 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| EMK063 BJ104[P]-F |               |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| EMK063 BJ224[P]-F |               |                   | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| EMK063BJ474[PLF]  |               |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.09                     | R                               |
| LMK063 BJ223[P]-F |               |                   | B X5R                       | 0.022 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| LMK063 BJ333[P]-F |               |                   | X5R                         | 0.033 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| LMK063 BJ473[P]-F |               |                   | X5R                         | 0.047 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| LMK063 BJ683[P]-F |               |                   | X5R                         | 0.068 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |
| LMK063 BJ104[P]-F |               |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| LMK063 BJ224[P]-F |               |                   | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| LMK063BJ474[PLF]  |               |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.09                     | R                               |
| LMK063BJ105MPLF   |               |                   | X5R                         | 1 μ             | ±10                       | 10        | 150                       | 0.3±0.09                     | R                               |
| JMK063 BJ104[P]-F |               |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063 BJ224[P]-F |               |                   | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063 BJ334MP-F  |               |                   | X5R                         | 0.33 μ          | ±10                       | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063 BJ474[P]-F |               |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063ABJ105[P]-F |               |                   | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.3±0.05                     | R                               |
| AMK063EBJ475MP-F  |               | 4                 | X5R                         | 4.7 μ           | ±10                       | 10        | 150                       | 0.3±0.25/-0                  | R                               |
| PMK063EBJ475MP-F  |               | 2.5               | X5R                         | 4.7 μ           | ±10                       | 10        | 150                       | 0.3±0.25/-0                  | R                               |

【Temperature Characteristic C6 : X6S (−55~+105°C)】 0.3mm thickness (P)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| TMK063 C6104[P]-F |               | 25                | X6S                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| EMK063AC6104[P]-F |               | 16                | X6S                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.05                     | R                               |
| LMK063 C6104[P]-F |               |                   | X6S                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| LMK063 C6224[P]-F |               |                   | X6S                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| LMK063BC6474[PLF] |               |                   | X6S                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.09                     | R                               |
| JMK063 C6104[P]-F |               |                   | X6S                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063 C6224[P]-F |               |                   | X6S                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| JMK063BC6474[P]-F |               |                   | X6S                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.09                     | R                               |
| JMK063BC6105MP-F  |               |                   | X6S                         | 1 μ             | ±10                       | 10        | 150                       | 0.3±0.09                     | R                               |
| AMK063 C6474[P]-F |               |                   | X6S                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| AMK063AC6105[P]-F |               |                   | X6S                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.3±0.05                     | R                               |

## for General Electronic Equipment

PARTS NUMBER

【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.3mm thickness (P)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK063 B7101[P]-F |               |                   | X7R                         | 100 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7151[P]-F |               |                   | X7R                         | 150 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7221[P]-F |               |                   | X7R                         | 220 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7331[P]-F |               |                   | X7R                         | 330 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7471[P]-F |               |                   | X7R                         | 470 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7681[P]-F |               |                   | X7R                         | 680 p           | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7102[P]-F |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 3.5       | 200                       | 0.3±0.03                     | R                               |
| UMK063 B7152[P]-F |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 B7222[P]-F |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 B7332[P]-F |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 B7472[P]-F |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 B7682[P]-F |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| TMK063 B7103[P]-F |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7152[P]-F |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7222[P]-F |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7332MP-F  |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7472[P]-F |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7682[P]-F |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7103[P]-F |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 5         | 200                       | 0.3±0.03                     | R                               |
| EMK063 B7223[P]-F |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 7.5       | 150                       | 0.3±0.03                     | R                               |

## 105TYPE

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.5mm thickness (V)

| Part number 1     | Part number 2     | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|-------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK105 BJ223[V]-F |                   |                   | X5R                         | 0.022 μ         | ±10, ±20                  | 5         | 200                       | 0.5±0.05                     | R                               |
| UMK105 BJ473[V]-F |                   |                   | X5R                         | 0.047 μ         | ±10, ±20                  | 5         | 200                       | 0.5±0.05                     | R                               |
| UMK105 BJ104[V]-F |                   |                   | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| UMK105 BJ224[V]-F |                   |                   | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| UMK105ABJ474[V]-F |                   |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.5±0.10                     | R                               |
| UMK105CBJ105[V]-F |                   |                   | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.20/-0                  | R                               |
| GMK105 BJ104[V]-F |                   |                   | B X5R                       | 0.1 μ           | ±10, ±20                  | 5         | 150                       | 0.5±0.05                     | R                               |
| EMK105ABJ105[V]-F |                   |                   | B X5R                       | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.10                     | R                               |
| TMK105 BJ153[V]-F |                   |                   | B X5R <sup>+)1</sup>        | 0.015 μ         | ±10, ±20                  | 3.5       | 200                       | 0.5±0.05                     | R                               |
| TMK105 BJ223[V]-F |                   |                   | B X5R <sup>+)1</sup>        | 0.022 μ         | ±10, ±20                  | 3.5       | 200                       | 0.5±0.05                     | R                               |
| TMK105 BJ333[V]-F |                   |                   | B X5R <sup>+)1</sup>        | 0.033 μ         | ±10, ±20                  | 3.5       | 150                       | 0.5±0.05                     | R                               |
| TMK105 BJ473[V]-F |                   |                   | B X5R <sup>+)1</sup>        | 0.047 μ         | ±10, ±20                  | 3.5       | 150                       | 0.5±0.05                     | R                               |
| TMK105 BJ104[V]-F |                   |                   | B X5R                       | 0.1 μ           | ±10, ±20                  | 5         | 150                       | 0.5±0.05                     | R                               |
| TMK105 BJ224[V]-F |                   |                   | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| TMK105ABJ474[V]-F |                   |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 200                       | 0.5±0.10                     | R                               |
| TMK105 BJ105[V]-F |                   |                   | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| TMK105CBJ225[V]-F |                   |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.20/-0                  | R                               |
| EMK105 BJ224[V]-F |                   |                   | B X5R                       | 0.22 μ          | ±10, ±20                  | 5         | 150                       | 0.5±0.05                     | R                               |
| EMK105ABJ474[V]-F |                   |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 200                       | 0.5±0.10                     | R                               |
| EMK105 BJ105[V]-F |                   |                   | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| EMK105ABJ225[V]-F |                   |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.10                     | R                               |
| LMK105 BJ225[V]-F |                   |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| LMK105BJ475MPLF   |                   |                   | X5R                         | 4.7 μ           | ±10                       | 10        | 150                       | 0.5±0.15/-0.05               | R                               |
| JMK105 BJ225[V]-F |                   |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| JMK105BJ475MV-F   | JMK105 BJ475MV-FD | 6.3               | X5R                         | 4.7 μ           | ±10                       | 10        | 150                       | 0.5±0.15/-0.05               | R                               |
| JMK105BJ228MV-F   |                   |                   | X5R                         | 2.2 μ           | ±10                       | 20        | 150                       | 0.5±0.30/-0                  | R                               |
| AMK105BJ228MV-F   |                   | 4                 | X5R                         | 2.2 μ           | ±10                       | 20        | 150                       | 0.5±0.30/-0                  | R                               |

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.3mm thickness (P)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK105 BJ104[P]-F |               | 50                | X5R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.3±0.03                     | R                               |
| TMK105 BJ103[P]-F |               |                   | B                           | X5R             | 0.01 μ                    | ±10, ±20  | 5                         | 150                          | 0.3±0.03                        |
| TMK105 BJ104[P]-F |               |                   |                             | X5R             | 0.1 μ                     | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| TMK105 BJ224[P]-F |               | 25                |                             | X5R             | 0.22 μ                    | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| TMK105 BJ474[P]-F |               |                   |                             | X5R             | 0.47 μ                    | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| EMK105 BJ474[P]-F |               | 16                |                             | X5R             | 0.47 μ                    | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| UMK105 BJ105[P]-F |               | 10                |                             | X5R             | 1 μ                       | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| JMK105 BJ105[P]-F |               | 6.3               |                             | X5R             | 1 μ                       | ±10, ±20  | 10                        | 150                          | 0.3±0.03                        |
| AMK105 BJ225MP-F  |               | 4                 |                             | X5R             | 2.2 μ                     | ±20       | 10                        | 150                          | 0.3±0.03                        |

## for General Electronic Equipment

■PARTS NUMBER

### 【Temperature Characteristic BJ : X5R (−55~+85°C)】 0.13mm thickness (H)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| LMK105 BJ104MH-R |               | 10                | X5R                         | 0.1 μ           | ±20                       | 10        | 150                       | 0.13±0.02                    | R                               |
| JMK105 BJ224MH-R |               | 6.3               | X5R                         | 0.22 μ          | ±20                       | 10        | 150                       | 0.13±0.02                    | R                               |
| AMK105 BJ474MH-R |               | 4                 | X5R                         | 0.47 μ          | ±20                       | 10        | 150                       | 0.13±0.02                    | R                               |

### 【Temperature Characteristic C6 : X6S (−55~+105°C)】 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| GMK105CC8105MV-F |               | 35                | X6S                         | 1 μ             | ±20                       | 10        | 150                       | 0.5±0.20/-0                  | R                               |
| TMK105AC8105[V-F |               | 25                | X6S                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.10                     | R                               |
| EMK105 C6105[V-F |               | 16                | X6S                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| EMK105CC8225[V-F |               | 10                | X6S                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.20/-0                  | R                               |
| EMK105 C6105[V-F |               | 10                | X6S                         | 1 μ             | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| LMK105AC8225[V-F |               | 10                | X6S                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.10                     | R                               |
| JMK105 C6105[V-F |               | 6.3               | X6S                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| JMK105 C6225[V-F |               | 6.3               | X6S                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| JMK105BC6475MV-F |               | 4                 | X6S                         | 4.7 μ           | ±20                       | 10        | 150                       | 0.5±0.15/-0.05               | R                               |
| AMK105BC6475MV-F |               | 4                 | X6S                         | 4.7 μ           | ±20                       | 10        | 200                       | 0.5±0.15/-0.05               | R                               |

### 【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.5mm thickness (V)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK105 B7152[V-F  |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 2.5       | 200                       | 0.5±0.05                     | R                               |
| UMK105 B7222[V-F  |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 2.5       | 200                       | 0.5±0.05                     | R                               |
| UMK105 B7332[V-F  |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 2.5       | 200                       | 0.5±0.05                     | R                               |
| UMK105 B7472[V-F  |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 2.5       | 150                       | 0.5±0.05                     | R                               |
| UMK105 B7692[V-F  |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 2.5       | 150                       | 0.5±0.05                     | R                               |
| UMK105 B7103[V-F  |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 3.5       | 150                       | 0.5±0.05                     | R                               |
| UMK105 B7223[V-FR |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| UMK105 B7473[V-FR |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| UMK105 B7104[V-FR |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| TMK105 B7223[V-F  |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 3.5       | 150                       | 0.5±0.05                     | R                               |
| TMK105 B7473[V-F  |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 3.5       | 150                       | 0.5±0.05                     | R                               |
| TMK105 B7104[V-FR |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| TMK105 B7104[V-FR |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 10        | 200                       | 0.5±0.05                     | R                               |
| TMK105 B7224[V-FR |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| EMK105 B7223[V-F  |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 3.5       | 200                       | 0.5±0.05                     | R                               |
| EMK105 B7473[V-F  |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 3.5       | 200                       | 0.5±0.05                     | R                               |
| EMK105 B7104[V-F  |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 5         | 150                       | 0.5±0.05                     | R                               |
| EMK105 B7224[V-FR |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| LMK105 B7224[V-FR |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| LMK105 B7474[V-F  |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |
| JMK105 B7224[V-F  |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 5         | 150                       | 0.5±0.05                     | R                               |
| JMK105 B7474[V-F  |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.5±0.05                     | R                               |

### ●107TYPE

### 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2     | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|-------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK107ABJ474[A-T  | UMK107 BJ474[A-TD |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| UMK107 BJ105[A-T  |                   | 50                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| UMK107BBJ225[A-T  |                   |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| GMK107BBJ475[A-T  |                   | 35                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| TMK107ABJ225[A-T  | TMK107 BJ225[A-TD |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| TMK107BBJ475[A-T  |                   | 25                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| TMK107BBJ106MA-T  |                   |                   | X5R                         | 10 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| EMK107ABJ475[A-T  | EMK107 BJ475[A-TD | 16                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| EMK107BBJ106MA-T  |                   |                   | X5R                         | 10 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| LMK107BBJ106[ALTD | LMK107 BJ106[ALTD | 10                | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| LMK107BBJ226MA-T  |                   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| JMK107ABJ106[A-T  | JMK107 BJ106[A-T  | 6.3               | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| LMK107BBJ226MA-T  |                   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| JMK107BBJ476MA-RE |                   |                   | X5R                         | 47 μ            | ±20                       | 15        | 150                       | 0.8±0.20/-0                  | R                               |
| AMK107BBJ476MA-RE |                   | 4                 | X5R                         | 47 μ            | ±20                       | 20        | 150                       | 0.8±0.20/-0                  | R                               |

### 【Temperature Characteristic BJ : X5R (−55~+85°C)】 0.45mm thickness (K)

| Part number 1      | Part number 2    | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| TMK107 BJ105[K-T   |                  | 25                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| EMK107 BJ105[K-T   |                  | 16                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| EMK107BBJ225[K-T   |                  |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| LMK107 BJ105[K-T   |                  | 10                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| LMK107 BJ225[K-T   |                  |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| LMK107BBJ476MKLT   | LMK107 BJ475MKLT |                   | X5R                         | 4.7 μ           | ±20                       | 10        | 150                       | 0.45±0.05                    | R                               |
| JMK107 BJ105[K-T   |                  | 6.3               | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| JMK107 BJ225[K-T   |                  |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.45±0.05                    | R                               |
| JMK107 BJ475MK-T   |                  |                   | X5R                         | 4.7 μ           | ±20                       | 10        | 150                       | 0.45±0.05                    | R                               |
| JMK107BBJ106MK-TT  |                  |                   | X5R                         | 10 μ            | ±20                       | 10        | 150                       | 0.45±0.05                    | R                               |
| AMK107BBJ106MK-T+2 |                  | 4                 | X5R                         | 10 μ            | ±20                       | 10        | 150                       | 0.45±0.05                    | R                               |

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## for General Electronic Equipment

■PARTS NUMBER

### 【Temperature Characteristic C6 : X6S (−55~+105°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| TMK107BC6225[A-T  |               | 25                | X6S                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| EMK107 C6105[A-T  |               |                   | X6S                         | 1 μ             | ±10, ±20                  | 5         | 150                       | 0.8±0.10                     | R                               |
| EMK107BC6225[A-T  |               | 16                | X6S                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| EMK107BC6475[A-T  |               |                   | X6S                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| EMK107BC6106MA-T  |               |                   | X6S                         | 10 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| LMK107 C6105[A-T  |               | 10                | X6S                         | 1 μ             | ±10, ±20                  | 5         | 150                       | 0.8±0.10                     | R                               |
| LMK107AC6475[A-T  |               |                   | X6S                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| LMK107BC6106MA-T  |               |                   | X6S                         | 10 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| JMK107 C6475[A-T  |               | 6.3               | X6S                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| JMK107BC6106MA-T  |               |                   | X6S                         | 10 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| JMK107BC6226MA-T  |               |                   | X6S                         | 22 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| AMK107BC6226MA-T  |               | 4                 | X6S                         | 22 μ            | ±20                       | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| AMK107BC6476MA-RE |               |                   | X6S                         | 47 μ            | ±20                       | 20        | 150                       | 0.8±0.20/-0                  | R                               |

### 【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK107 B7224[A-TR |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| UMK107 B7474[A-TR |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| UMK107ABJ105[A-T  |               |                   | X7R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.8±0.15/-0.05               | R                               |
| TMK107 B7474[A-T  |               | 25                | X7R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| TMK107 B7105[A-T  |               |                   | X7R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| EMK107 B7474[A-T  |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 150                       | 0.8±0.10                     | R                               |
| EMK107 B7105[A-T  |               | 16                | X7R                         | 1 μ             | ±10, ±20                  | 5         | 150                       | 0.8±0.10                     | R                               |
| EMK107BBJ225[A-T  |               |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |
| LMK107 B7225[A-TR |               | 10                | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.10                     | R                               |
| JMK107 B7225[A-TR |               | 6.3               | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 200                       | 0.8±0.10                     | R                               |
| JMK107BBJ475[A-T  |               |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.8±0.20/-0                  | R                               |

### ●212TYPE

### 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 1.25mm thickness (G)

| Part number 1     | Part number 2     | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|-------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK212BBJ475[JG-T |                   | 50                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| GMK212BBJ106[JG-T |                   | 35                | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| TMK212ABJ475[JG-T | TMK212 BJ475[JG-T |                   | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.15/-0.05              | R                               |
| TMK212BBJ106MG-T  |                   | 25                | X5R                         | 10 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| EMK212BBJ226MG-TT |                   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| TMK212ABJ106[JG-T | EMK212 BJ106[JG-T |                   | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.25±0.15/-0.05              | R                               |
| EMK212BBJ226MG-T  |                   | 16                | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| LMK212BBJ476MG-T  |                   | 10                | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| JMK212BBJ476MG-T  | JMK212 BJ476MG-T  |                   | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| JMK212BBJ107MG-TE |                   | 6.3               | X5R                         | 100 μ           | ±20                       | 20        | 150                       | 1.25±0.20/-0                 | R                               |
| AMK212BBJ107MG-TE |                   | 4                 | X5R                         | 100 μ           | ±20                       | 20        | 150                       | 1.25±0.20/-0                 | R                               |
| PMK212BBJ107MG-T  |                   | 2.5               | X5R                         | 100 μ           | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |

### 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.85mm thickness (D)

| Part number 1     | Part number 2      | Rated voltage [V] | Temperature characteristics | Capacitance [F]   | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |   |
|-------------------|--------------------|-------------------|-----------------------------|-------------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|---|
| UMK212ABJ105[JD-T | UMK212 BJ105[JD-TD | 50                | X5R                         | 1 μ               | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| UMK212BBJ225[JD-T |                    |                   | X5R                         | 2.2 μ             | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| GMK212BBJ475[JD-T |                    | 35                | X5R                         | 4.7 μ             | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| TMK212 BJ474[JD-T |                    |                   | B                           | X5R               | 0.47 μ                    | ±10, ±20  | 3.5                       | 200                          | 0.85±0.10                       | R |
| TMK212 BJ105[JD-T |                    | 25                | B                           | X5R               | 1 μ                       | ±10, ±20  | 5                         | 200                          | 0.85±0.10                       | R |
| TMK212ABJ225[JD-T | TMK212 BJ225[JD-T  |                   | X5R                         | 2.2 μ             | ±10, ±20                  | 5         | 150                       | 0.85±0.10                    | R                               |   |
| TMK212BBJ475[JD-T | TMK212 BJ475[JD-TD |                   | X5R                         | 4.7 μ             | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| TMK212BBJ106[JD-T |                    |                   | X5R                         | 10 μ              | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| EMK212 BJ105[JD-T |                    |                   | B                           | X5R <sup>*)</sup> | 1 μ                       | ±10, ±20  | 5                         | 200                          | 0.85±0.10                       | R |
| UMK212ABJ225[JD-T | EMK212 BJ225[JD-T  | 16                | X5R <sup>*)</sup>           | 2.2 μ             | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |   |
| EMK212 BJ475[JD-T |                    |                   | X5R                         | 4.7 μ             | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| UMK212ABJ106[JD-T | EMK212 BJ106[JD-TD |                   | X5R                         | 10 μ              | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| TMK212 BJ105[JD-T |                    |                   | B                           | X5R <sup>*)</sup> | 1 μ                       | ±10, ±20  | 3.5                       | 200                          | 0.85±0.10                       | R |
| LMK212 BJ225[JD-T |                    | 10                | X5R <sup>*)</sup>           | 2.2 μ             | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |   |
| LMK212ABJ106[JD-T | LMK212 BJ106[JD-T  |                   | X5R                         | 10 μ              | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |   |
| UMK212BBJ226MD-T  | UMK212BBJ226MD-T   |                   | X5R                         | 22 μ              | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |   |
| UMK212ABJ106[JD-T | TMK212 BJ106[JD-T  | 6.3               | X5R                         | 10 μ              | ±10, ±20                  | 20        | 150                       | 0.85±0.10                    | R                               |   |
| UMK212ABJ226MD-T  | UMK212 BJ226MD-T   |                   | X5R                         | 22 μ              | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |   |
| AMK212BBJ476MD-T  |                    | 4                 | X5R                         | 47 μ              | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |   |

## for General Electronic Equipment

PARTS NUMBER

## 【Temperature Characteristic C6 : X6S (−55~+105°C)】0.85mm thickness (D)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| LMK212AC6106[D]-T |               | 10                | X6S                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| AMK212BC6226MD-T  |               | 4                 | X6S                         | 22 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |

## 【Temperature Characteristic B7 : X7R (−55~+125°C)】1.25mm thickness (G)

| Part number 1      | Part number 2      | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|--------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK212 B7224[G]-T  |                    | 50                | X7R                         | 0.22 μ          | ±10, ±20                  | 3.5       | 150                       | 1.25±0.10                    | R/W                             |
| UMK212 B7474[G]-T  |                    |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 150                       | 1.25±0.10                    | R/W                             |
| UMK212 B7105[G]-T  |                    |                   | X7R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 1.25±0.10                    | R/W                             |
| UMK212BB7225[G]-T  |                    | 25                | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| TMK212 B7225[G]-TR |                    |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.10                    | R                               |
| TMK212AB7475[G]-T  | TMK212 B7475[G]-T  |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.15/-0.05              | R                               |
| EMK212 B7475[G]-T  |                    | 16                | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.25±0.10                    | R                               |
| EMK212BB7106MG-T   |                    |                   | X7R                         | 10 μ            | ±20                       | 10        | 150                       | 1.25±0.20/-0                 | R                               |
| LMK212AB7106[G]-T  | LMK212 B7106[G]-TD |                   | X7R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.25±0.15/-0.05              | R                               |
| AMK212AB7106[G]-T  | JMK212 B7106[G]-T  | 6.3               | X7R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.25±0.15/-0.05              | R                               |

## 【Temperature Characteristic B7 : X7R (−55~+125°C)】0.85mm thickness (D)

| Part number 1      | Part number 2      | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|--------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK212AB7104[D]-T  |                    | 50                | X7R                         | 0.1 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| UMK212AB7224[D]-T  |                    |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| UMK212AB7474[D]-T  |                    |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| UMK212AB7105[D]-T  |                    | 25                | X7R                         | 1 μ             | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| TMK212AB7225[D]-TR |                    |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| EMK212 B7474[D]-T  |                    |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 0.85±0.10                    | R/W                             |
| EMK212 B7105[D]-T  |                    | 16                | X7R                         | 1 μ             | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |
| EMK212AB7225[D]-T  | EMK212 B7225[D]-T  |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 5         | 150                       | 0.85±0.10                    | R                               |
| EMK212BB7475[D]-T  |                    |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK212 B7105[D]-T  |                    | 10                | X7R                         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 0.85±0.10                    | R                               |
| LMK212AB7225[D]-T  | LMK212 B7225[D]-T  |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |
| LMK212AB7475[D]-TR | LMK212 B7475[D]-TR |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |

## ●316TYPE

## 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】1.6mm thickness (L)

| Part number 1      | Part number 2    | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK316 BJ475[IL]-T |                  | 50                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |
| UMK316BBJ106[IL]-T |                  |                   | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.6±0.30                     | R                               |
| TMK316BBJ226ML-T   |                  |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| EMK316BBJ476ML-T   |                  | 16                | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| LMK316ABJ476ML-T   | LMK316 BJ476ML-T | 10                | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| UMK316ABJ107ML-T   | UMK316 BJ107ML-T | 6.3               | X5R                         | 100 μ           | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| JMK316BBJ227ML-TE  |                  |                   | X5R                         | 220 μ           | ±20                       | 20        | 150                       | 1.6±0.30                     | R                               |
| AMK316ABJ107ML-T   | AMK316 BJ107ML-T |                   | X5R                         | 100 μ           | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| AMK316BBJ157ML-T   |                  | 4                 | X5R                         | 150 μ           | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| AMK316BBJ227ML-TE  |                  |                   | X5R                         | 220 μ           | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| PMK316BBJ227ML-T   |                  |                   | X5R                         | 220 μ           | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |

## 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】0.85mm thickness (D)

| Part number 1     | Part number 2      | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|-------------------|--------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK316 BJ105[D]-T |                    | 50                | B X5R                       | 1 μ             | ±10, ±20                  | 3.5       | 150                       | 0.85±0.10                    | R                               |
| UMK316 BJ225[D]-T |                    |                   | B X5R                       | 2.2 μ           | ±10, ±20                  | 3.5       | 150                       | 0.85±0.10                    | R                               |
| UMK316ABJ475[D]-T | UMK316 BJ475[D]-T  |                   | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| TMK316 BJ105[D]-T |                    | 25                | B X5R                       | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 0.85±0.10                    | R                               |
| TMK316 BJ225[D]-T |                    |                   | B X5R                       | 2.2 μ           | ±10, ±20                  | 3.5       | 150                       | 0.85±0.10                    | R                               |
| TMK316 BJ475[D]-T |                    |                   | X5R                         | 4.7 μ           | ±10, ±20                  | 5         | 150                       | 0.85±0.10                    | R                               |
| TMK316ABJ106[D]-T | TMK316 BJ106[D]-TD | 16                | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| EMK316 BJ225[D]-T |                    |                   | B X5R                       | 2.2 μ           | ±10, ±20                  | 3.5       | 200                       | 0.85±0.10                    | R                               |
| EMK316 BJ475[D]-T |                    |                   | B X5R                       | 4.7 μ           | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |
| EMK316 BJ106[D]-T |                    | 10                | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| EMK316ABJ226MD-T  | EMK316 BJ226MD-T   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK316 BJ475[D]-T |                    |                   | B X5R                       | 4.7 μ           | ±10, ±20                  | 5         | 200                       | 0.85±0.10                    | R                               |
| LMK316 BJ106[D]-T |                    | 6.3               | X5R                         | 10 μ            | ±10, ±20                  | 10        | 200                       | 0.85±0.10                    | R                               |
| LMK316ABJ226MD-T  | LMK316 BJ226MD-T   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK316 BJ106[D]-T |                    |                   | X5R                         | 10 μ            | ±10, ±20                  | 10        | 200                       | 0.85±0.10                    | R                               |
| LMK316ABJ226MD-T  | LMK316 BJ226MD-T   | 4                 | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK316 BJ106[D]-T |                    |                   | X5R                         | 10 μ            | ±10, ±20                  | 10        | 200                       | 0.85±0.10                    | R                               |
| LMK316ABJ226MD-T  | LMK316 BJ226MD-T   |                   | X5R                         | 22 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK316 BJ106[D]-T |                    | 2.5               | X5R                         | 220 μ           | ±20                       | 20        | 150                       | 1.6±0.30                     | R                               |
| LMK316ABJ226MD-T  | LMK316 BJ226MD-T   |                   | X5R                         | 220 μ           | ±20                       | 20        | 150                       | 1.6±0.30                     | R                               |
| LMK316 BJ106[D]-T |                    |                   | X5R                         | 220 μ           | ±20                       | 20        | 150                       | 1.6±0.30                     | R                               |

## 【Temperature Characteristic C6 : X6S (−55~+105°C)】1.6mm thickness (L)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| EMK316BC6226ML-T  |               | 16                | X6S                         | 22 μ            | ±10                       | 10        | 150                       | 1.6±0.30                     | R                               |
| LMK316BC6476ML-T  |               | 10                | X6S                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| JMK316AC6476ML-T  |               | 6.3               | X6S                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| AMK316AC6476ML-T  |               | 4                 | X6S                         | 47 μ            | ±20                       | 10        | 200                       | 1.6±0.20                     | R                               |
| AMK316AC6107ML-T  |               |                   | X6S                         | 100 μ           | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| AMK316BC6227ML-TE |               |                   | X6S                         | 220 μ           | ±20                       | 20        | 150                       | 1.6±0.30                     | R                               |

## for General Electronic Equipment

PARTS NUMBER

## 【Temperature Characteristic C7 : X7S (−55~+125°C)】1.6mm thickness (L)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| JMK316AC7476ML-T |               | 6.3               | X7S                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |
| AMK316AC7476ML-T |               | 4                 | X7S                         | 47 μ            | ±20                       | 10        | 150                       | 1.6±0.20                     | R                               |

## 【Temperature Characteristic B7 : X7R (−55~+125°C)】1.6mm thickness (L)

| Part number 1       | Part number 2       | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|---------------------|---------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK316 B7225[IL]-T  |                     | 50                | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |
| UMK316AB7475[IL]-T  | UMK316 B7475[IL]-T  |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |
| QMK316AB7106[IL]-TR |                     |                   | X7R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |
| TMK316AB7475[IL]-T  |                     | 25                | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 200                       | 1.6±0.20                     | R                               |
| TMK316AB7106[IL]-T  | TMK316 B7106[IL]-TD |                   | X7R                         | 10 μ            | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |
| EMK316 B7475[IL]-T  |                     |                   | X7R                         | 4.7 μ           | ±10, ±20                  | 5         | 200                       | 1.6±0.20                     | R                               |
| EMK316AB7106[IL]-T  | EMK316 B7106[IL]-TD | 16                | X7R                         | 10 μ            | ±10, ±20                  | 10        | 200                       | 1.6±0.20                     | R                               |
| EMK316BB7226ML-T    |                     |                   | X7R                         | 22 μ            | ±20                       | 10        | 150                       | 1.6±0.30                     | R                               |
| LMK316AB7106[IL]-T  | LMK316 B7106[IL]-TD |                   | X7R                         | 10 μ            | ±10, ±20                  | 10        | 200                       | 1.6±0.20                     | R                               |
| LMK316AB7226[IL]-TR | LMK316 B7226[IL]-TD | 10                | X7R                         | 22 μ            | ±10, ±20                  | 10        | 150                       | 1.6±0.20                     | R                               |

## 【Temperature Characteristic B7 : X7R (−55~+125°C)】0.85mm thickness (D)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK316 B7225[JD]-T |               | 50                | X7R                         | 2.2 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| TMK316AB7475[JD]-T |               | 25                | X7R                         | 4.7 μ           | ±10, ±20                  | 10        | 150                       | 0.85±0.10                    | R                               |
| LMK316AB7106MD-T   |               | 10                | X7R                         | 10 μ            | ±20                       | 10        | 150                       | 0.85±0.10                    | R                               |

## ●325TYPE

## 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】2.5mm thickness (M)

| Part number 1      | Part number 2    | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|------------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK325 BJ106[IM]-P |                  | 50                | X5R                         | 10 μ            | ±10, ±20                  | 5         | 150                       | 2.5±0.20                     | R                               |
| QMK325 BJ226MM-P   |                  | 35                | X5R                         | 22 μ            | ±20                       | 5         | 150                       | 2.5±0.20                     | R                               |
| TMK325ABJ476MM-P   |                  | 25                | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| EMK325ABJ107MM-P   |                  | 16                | X5R                         | 100 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| LMK325 BJ476MM-P   |                  | 10                | X5R                         | 47 μ            | ±20                       | 10        | 150                       | 2.5±0.20                     | R                               |
| LMK325ABJ107MM-P   | LMK325 BJ107MM-P |                   | X5R                         | 100 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| UMK325ABJ157MM-P   |                  |                   | X5R                         | 150 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| JMK325ABJ227MM-P   |                  | 6.3               | X5R                         | 220 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| JMK325ABJ337MM-PE  |                  |                   | X5R                         | 330 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| AMK325ABJ157MM-P   |                  |                   | X5R                         | 150 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| AMK325ABJ227MM-P   |                  | 4                 | X5R                         | 220 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
| AMK325ABJ337MM-P   |                  |                   | X5R                         | 330 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |
|                    |                  |                   | X5R                         | 330 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |

## 【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】1.9mm thickness (Y,N)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F]          | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage × % | Thickness <sup>*)</sup> [mm] | Soldering<br>R/Reflow<br>W/Wave |
|--------------------|---------------|-------------------|-----------------------------|--------------------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK325 BJ475[IN]-T |               | 50                |                             | X5R 4.7 μ                | ±10, ±20                  | 10        | 150                       | 1.9±0.20                     | R                               |
| GMK325 BJ225[IN]-T |               |                   | B                           | X5R 2.2 μ                | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| QMK325 BJ475[IN]-T |               | 35                |                             | X5R 4.7 μ                | ±10, ±20                  | 10        | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ106[IN]-T |               |                   |                             | X5R 10 μ                 | ±10, ±20                  | 5         | 150                       | 1.9±0.20                     | R                               |
| TMK325 BJ335MN-T   |               |                   | B                           | X5R <sup>(1)</sup> 3.3 μ | ±20                       | 3.5       | 200                       | 1.9±0.20                     | R                               |
| TMK325 BJ475[IN]-T |               | 25                | B                           | X5R <sup>(1)</sup> 4.7 μ | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| TMK325 BJ106[IN]-T |               |                   |                             | X5R 10 μ                 | ±10, ±20                  | 5         | 200                       | 1.9±0.20                     | R                               |
| EMK325 BJ475[IN]-T |               |                   | B                           | X5R <sup>(1)</sup> 4.7 μ | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| QMK325 BJ106[IN]-T |               | 16                |                             | X5R 10 μ                 | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| EMK325 BJ475[IN]-T |               |                   |                             | X5R 10 μ                 | ±10, ±20                  | 10        | 150                       | 1.9±0.1-0.2                  | R                               |
| UMK325 BJ226MY-T   |               |                   | B                           | X5R 22 μ                 | ±20                       | 5         | 150                       | 1.9±0.1-0.2                  | R                               |
| LMK325 BJ106[IN]-T |               | 10                |                             | X5R 10 μ                 | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| QMK325 BJ226MY-T   |               |                   | B                           | X5R 22 μ                 | ±20                       | 5         | 200                       | 1.9±0.1-0.2                  | R                               |
| UMK325 BJ107MY-T   |               | 6.3               |                             | X5R 100 μ                | ±20                       | 10        | 150                       | 1.9±0.1-0.2                  | R                               |
| TMK325 BJ476MN-T   |               |                   | B                           | X5R 4.7 μ                | ±20                       | 10        | 150                       | 1.9±0.20                     | R                               |

## for General Electronic Equipment

PARTS NUMBER

【Temperature Characteristic C7 : X7S (−55~+125°C)】 2.5mm thickness (M)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| JMK325AC7107MM-P |               | 6.3               | X7S                         | 100 μ           | ±20                       | 10        | 150                       | 2.5±0.30                     | R                               |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 2.5mm thickness (M)

| Part number 1       | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|---------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK325 B7335 [J]-P  | 50            | X7R               | 3.3 μ                       | ±10, ±20        | 3.5                       | 200       | 2.5±0.20                  | R                            |                                 |
| UMK325 B7475 [J]-P  |               |                   | 4.7 μ                       | ±10, ±20        | 5                         | 150       | 2.5±0.20                  | R                            |                                 |
| UMK325AB7106 [J]-P  |               |                   | 10 μ                        | ±10, ±20        | 10                        | 150       | 2.5±0.30                  | R                            |                                 |
| TMK325AB7106 [J]-P  | 25            | X7R               | 10 μ                        | ±10, ±20        | 10                        | 200       | 2.5±0.30                  | R                            |                                 |
| TMK325 B7226 [J]-PR |               |                   | 22 μ                        | ±10, ±20        | 10                        | 150       | 2.5±0.20                  | R                            |                                 |
| EMK325 B7226 [J]-PR |               |                   | 22 μ                        | ±10, ±20        | 10                        | 150       | 2.5±0.20                  | R                            |                                 |
| LMK325 B7476 [J]-PR | 10            | X7R               | 47 μ                        | ±10, ±20        | 10                        | 150       | 2.5±0.20                  | R                            |                                 |
| JMK325 B7476 [J]-PR | 6.3           | X7R               | 47 μ                        | ±10, ±20        | 10                        | 200       | 2.5±0.20                  | R                            |                                 |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 1.9mm thickness (N)

| Part number 1       | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|---------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK325 B7475 [N]-TR | 25            | X7R               | 4.7 μ                       | ±10, ±20        | 10                        | 150       | 1.9±0.20                  | R                            |                                 |
| TMK325 B7335 [N]-T  |               |                   | 3.3 μ                       | ±10, ±20        | 3.5                       | 200       | 1.9±0.20                  | R                            |                                 |
| TMK325 B7475 [N]-T  |               |                   | 4.7 μ                       | ±10, ±20        | 3.5                       | 150       | 1.9±0.20                  | R                            |                                 |
| TMK325 B7106 [N]-TR | 16            | X7R               | 10 μ                        | ±10, ±20        | 10                        | 150       | 1.9±0.20                  | R                            |                                 |
| EMK325 B7475 [N]-T  |               |                   | 4.7 μ                       | ±10, ±20        | 3.5                       | 200       | 1.9±0.20                  | R                            |                                 |
| EMK325 B7106 [N]-T  |               |                   | 10 μ                        | ±10, ±20        | 3.5                       | 150       | 1.9±0.20                  | R                            |                                 |
| LMK325 B7106 [N]-T  | 10            | X7R               | 10 μ                        | ±10, ±20        | 3.5                       | 200       | 1.9±0.20                  | R                            |                                 |

● 432 TYPE

【Temperature Characteristic BJ : X5R (−55~+85°C)】 2.5mm thickness (M)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| AMK432 BJ477MM-T |               | 4                 | X5R                         | 470 μ           | ±20                       | 10        | 150                       | 2.5±0.20                     | R                               |

【Temperature Characteristic C6 : X6S (−55~+105°C)】 2.5mm thickness (M)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| PMK432 C6477MM-T |               | 2.5               | X6S                         | 470 μ           | ±20                       | 10        | 150                       | 2.5±0.20                     | R                               |

## for General Electronic Equipment

PARTS NUMBER

Multilayer Ceramic Capacitors (Temperature compensating type)

● 021 TYPE

【Temperature Characteristic CG : CG/COG (−55~+125°C)】 0.125mm thickness (K)

| Part number 1       | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance | Q (at 1MHz) mm | HTLT<br>Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|---------------------|---------------|-------------------|-----------------------------|-----------------|-----------------------|----------------|---------------------------|------------------------------|---------------------------------|
| TMK021 CG0R2BK-W    |               |                   | CG COG                      | 0.2 p           | ±0.1pF                | 404            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R3 [K]-W  |               |                   | CG COG                      | 0.3 p           | ±0.1pF, ±0.25pF       | 408            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R4 [K]-W  |               |                   | CG COG                      | 0.4 p           | ±0.1pF, ±0.25pF       | 408            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R5 [K]-W  |               |                   | CG COG                      | 0.5 p           | ±0.1pF, ±0.25pF       | 410            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R6 [K]-W  |               |                   | CG COG                      | 0.6 p           | ±0.1pF, ±0.25pF       | 412            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R7 [K]-W  |               |                   | CG COG                      | 0.7 p           | ±0.1pF, ±0.25pF       | 414            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CGR75 [K]-W  |               |                   | CG COG                      | 0.75 p          | ±0.1pF, ±0.25pF       | 415            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R8 [K]-W  |               |                   | CG COG                      | 0.8 p           | ±0.1pF, ±0.25pF       | 416            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG0R9 [K]-W  |               |                   | CG COG                      | 0.9 p           | ±0.1pF, ±0.25pF       | 418            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG010 [K]-W  |               |                   | CG COG                      | 1 p             | ±0.1pF, ±0.25pF       | 420            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R1 [K]-W  |               |                   | CG COG                      | 1.1 p           | ±0.1pF, ±0.25pF       | 422            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R2 [K]-W  |               |                   | CG COG                      | 1.2 p           | ±0.1pF, ±0.25pF       | 424            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R3 [K]-W  |               |                   | CG COG                      | 1.3 p           | ±0.1pF, ±0.25pF       | 426            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R4 [K]-W  |               |                   | CG COG                      | 1.4 p           | ±0.1pF, ±0.25pF       | 428            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R5 [K]-W  |               |                   | CG COG                      | 1.5 p           | ±0.1pF, ±0.25pF       | 430            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R6 [K]-W  |               |                   | CG COG                      | 1.6 p           | ±0.1pF, ±0.25pF       | 432            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R7 [K]-W  |               |                   | CG COG                      | 1.7 p           | ±0.1pF, ±0.25pF       | 434            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R8 [K]-W  |               |                   | CG COG                      | 1.8 p           | ±0.1pF, ±0.25pF       | 436            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG1R9 [K]-W  |               |                   | CG COG                      | 1.9 p           | ±0.1pF, ±0.25pF       | 438            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2020 [K]-W |               |                   | CG COG                      | 2 p             | ±0.1pF, ±0.25pF       | 440            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R1 [K]-W  |               |                   | CG COG                      | 2.1 p           | ±0.1pF, ±0.25pF       | 442            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R2 [K]-W  |               |                   | CG COG                      | 2.2 p           | ±0.1pF, ±0.25pF       | 444            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R3 [K]-W  |               |                   | CG COG                      | 2.3 p           | ±0.1pF, ±0.25pF       | 446            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R4 [K]-W  |               |                   | CG COG                      | 2.4 p           | ±0.1pF, ±0.25pF       | 448            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R5 [K]-W  |               |                   | CG COG                      | 2.5 p           | ±0.1pF, ±0.25pF       | 450            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R6 [K]-W  |               |                   | CG COG                      | 2.6 p           | ±0.1pF, ±0.25pF       | 452            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R7 [K]-W  |               |                   | CG COG                      | 2.7 p           | ±0.1pF, ±0.25pF       | 454            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R8 [K]-W  |               |                   | CG COG                      | 2.8 p           | ±0.1pF, ±0.25pF       | 456            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG2R9 [K]-W  |               |                   | CG COG                      | 2.9 p           | ±0.1pF, ±0.25pF       | 458            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG030 [K]-W  |               |                   | CG COG                      | 3 p             | ±0.1pF, ±0.25pF       | 460            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R1 [K]-W  |               |                   | CG COG                      | 3.1 p           | ±0.1pF, ±0.25pF       | 462            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R2 [K]-W  |               |                   | CG COG                      | 3.2 p           | ±0.1pF, ±0.25pF       | 464            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R3 [K]-W  |               |                   | CG COG                      | 3.3 p           | ±0.1pF, ±0.25pF       | 466            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R4 [K]-W  |               |                   | CG COG                      | 3.4 p           | ±0.1pF, ±0.25pF       | 468            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R5 [K]-W  |               |                   | CG COG                      | 3.5 p           | ±0.1pF, ±0.25pF       | 470            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R6 [K]-W  |               |                   | CG COG                      | 3.6 p           | ±0.1pF, ±0.25pF       | 472            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R7 [K]-W  |               |                   | CG COG                      | 3.7 p           | ±0.1pF, ±0.25pF       | 474            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R8 [K]-W  |               |                   | CG COG                      | 3.8 p           | ±0.1pF, ±0.25pF       | 476            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG3R9 [K]-W  |               |                   | CG COG                      | 3.9 p           | ±0.1pF, ±0.25pF       | 478            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG040 [K]-W  |               |                   | CG COG                      | 4 p             | ±0.1pF, ±0.25pF       | 480            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R1 [K]-W  |               |                   | CG COG                      | 4.1 p           | ±0.1pF, ±0.25pF       | 482            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R2 [K]-W  |               |                   | CG COG                      | 4.2 p           | ±0.1pF, ±0.25pF       | 484            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R3 [K]-W  |               |                   | CG COG                      | 4.3 p           | ±0.1pF, ±0.25pF       | 486            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R4 [K]-W  |               |                   | CG COG                      | 4.4 p           | ±0.1pF, ±0.25pF       | 488            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R5 [K]-W  |               |                   | CG COG                      | 4.5 p           | ±0.1pF, ±0.25pF       | 490            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R6 [K]-W  |               |                   | CG COG                      | 4.6 p           | ±0.1pF, ±0.25pF       | 492            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R7 [K]-W  |               |                   | CG COG                      | 4.7 p           | ±0.1pF, ±0.25pF       | 494            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R8 [K]-W  |               |                   | CG COG                      | 4.8 p           | ±0.1pF, ±0.25pF       | 496            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG4R9 [K]-W  |               |                   | CG COG                      | 4.9 p           | ±0.1pF, ±0.25pF       | 498            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG050 [K]-W  |               |                   | CG COG                      | 5 p             | ±0.1pF, ±0.25pF       | 500            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R1 [K]-W  |               |                   | CG COG                      | 5.1 p           | ±0.25pF, ±0.5pF       | 502            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R2 [K]-W  |               |                   | CG COG                      | 5.2 p           | ±0.25pF, ±0.5pF       | 504            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R3 [K]-W  |               |                   | CG COG                      | 5.3 p           | ±0.25pF, ±0.5pF       | 506            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R4 [K]-W  |               |                   | CG COG                      | 5.4 p           | ±0.25pF, ±0.5pF       | 508            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R5 [K]-W  |               |                   | CG COG                      | 5.5 p           | ±0.25pF, ±0.5pF       | 510            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R6 [K]-W  |               |                   | CG COG                      | 5.6 p           | ±0.25pF, ±0.5pF       | 512            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R7 [K]-W  |               |                   | CG COG                      | 5.7 p           | ±0.25pF, ±0.5pF       | 514            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R8 [K]-W  |               |                   | CG COG                      | 5.8 p           | ±0.25pF, ±0.5pF       | 516            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG5R9 [K]-W  |               |                   | CG COG                      | 5.9 p           | ±0.25pF, ±0.5pF       | 518            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG060 [K]-W  |               |                   | CG COG                      | 6 p             | ±0.25pF, ±0.5pF       | 520            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R1 [K]-W  |               |                   | CG COG                      | 6.1 p           | ±0.25pF, ±0.5pF       | 522            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R2 [K]-W  |               |                   | CG COG                      | 6.2 p           | ±0.25pF, ±0.5pF       | 524            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R3 [K]-W  |               |                   | CG COG                      | 6.3 p           | ±0.25pF, ±0.5pF       | 526            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R4 [K]-W  |               |                   | CG COG                      | 6.4 p           | ±0.25pF, ±0.5pF       | 528            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R5 [K]-W  |               |                   | CG COG                      | 6.5 p           | ±0.25pF, ±0.5pF       | 530            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R6 [K]-W  |               |                   | CG COG                      | 6.6 p           | ±0.25pF, ±0.5pF       | 532            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R7 [K]-W  |               |                   | CG COG                      | 6.7 p           | ±0.25pF, ±0.5pF       | 534            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R8 [K]-W  |               |                   | CG COG                      | 6.8 p           | ±0.25pF, ±0.5pF       | 536            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG6R9 [K]-W  |               |                   | CG COG                      | 6.9 p           | ±0.25pF, ±0.5pF       | 538            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG070 [K]-W  |               |                   | CG COG                      | 7 p             | ±0.25pF, ±0.5pF       | 540            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R1 [K]-W  |               |                   | CG COG                      | 7.1 p           | ±0.25pF, ±0.5pF       | 542            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R2 [K]-W  |               |                   | CG COG                      | 7.2 p           | ±0.25pF, ±0.5pF       | 544            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R3 [K]-W  |               |                   | CG COG                      | 7.3 p           | ±0.25pF, ±0.5pF       | 546            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R4 [K]-W  |               |                   | CG COG                      | 7.4 p           | ±0.25pF, ±0.5pF       | 548            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R5 [K]-W  |               |                   | CG COG                      | 7.5 p           | ±0.25pF, ±0.5pF       | 550            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R6 [K]-W  |               |                   | CG COG                      | 7.6 p           | ±0.25pF, ±0.5pF       | 552            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R7 [K]-W  |               |                   | CG COG                      | 7.7 p           | ±0.25pF, ±0.5pF       | 554            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R8 [K]-W  |               |                   | CG COG                      | 7.8 p           | ±0.25pF, ±0.5pF       | 556            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG7R9 [K]-W  |               |                   | CG COG                      | 7.9 p           | ±0.25pF, ±0.5pF       | 558            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG080 [K]-W  |               |                   | CG COG                      | 8 p             | ±0.25pF, ±0.5pF       | 560            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG8R1 [K]-W  |               |                   | CG COG                      | 8.1 p           | ±0.25pF, ±0.5pF       | 562            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG8R2 [K]-W  |               |                   | CG COG                      | 8.2 p           | ±0.25pF, ±0.5pF       | 564            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG8R3 [K]-W  |               |                   | CG COG                      | 8.3 p           | ±0.25pF, ±0.5pF       | 566            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG8R4 [K]-W  |               |                   | CG COG                      | 8.4 p           | ±0.25pF, ±0.5pF       | 568            | 200                       | 0.125±0.013                  | R                               |
| TMK021 CG8R5 [K]-W  |               |                   | CG COG                      | 8.5 p           | ±0.25pF, ±0.5pF       | 570            | 200                       | 0.125±0.013                  | R                               |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

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## for General Electronic Equipment

PARTS NUMBER

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|-----------------------|-----------------|------------------------|------------------------------|---------------------------|
| TMK021 CG8R6[K]-W |               | CG C0G            | 8.6 p                       | ±0.25pF, ±0.5pF | 572                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R7[K]-W |               | CG C0G            | 8.7 p                       | ±0.25pF, ±0.5pF | 574                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R8[K]-W |               | CG C0G            | 8.8 p                       | ±0.25pF, ±0.5pF | 576                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R9[K]-W |               | CG C0G            | 8.9 p                       | ±0.25pF, ±0.5pF | 578                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG090[K]-W |               | CG C0G            | 9 p                         | ±0.25pF, ±0.5pF | 580                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R1[K]-W |               | CG C0G            | 9.1 p                       | ±0.25pF, ±0.5pF | 582                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R2[K]-W |               | CG C0G            | 9.2 p                       | ±0.25pF, ±0.5pF | 584                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R3[K]-W |               | CG C0G            | 9.3 p                       | ±0.25pF, ±0.5pF | 586                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R4[K]-W |               | CG C0G            | 9.4 p                       | ±0.25pF, ±0.5pF | 588                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R5[K]-W |               | CG C0G            | 9.5 p                       | ±0.25pF, ±0.5pF | 590                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R6[K]-W |               | CG C0G            | 9.6 p                       | ±0.25pF, ±0.5pF | 592                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R7[K]-W |               | CG C0G            | 9.7 p                       | ±0.25pF, ±0.5pF | 594                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R8[K]-W |               | CG C0G            | 9.8 p                       | ±0.25pF, ±0.5pF | 596                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG8R9[K]-W |               | CG C0G            | 9.9 p                       | ±0.25pF, ±0.5pF | 598                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG100JK-W  |               | CG C0G            | 10 p                        | ±0.5pF          | 600                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG120JK-W  |               | CG C0G            | 12 p                        | ±5%             | 840                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG150JK-W  |               | CG C0G            | 15 p                        | ±5%             | 700                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG180JK-W  |               | CG C0G            | 18 p                        | ±5%             | 760                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG220JK-W  |               | CG C0G            | 22 p                        | ±5%             | 840                   | 200             | 0.125±0.013            | R                            |                           |
| TMK021 CG270JK-W  |               | CG C0G            | 27 p                        | ±5%             | 940                   | 200             | 0.125±0.013            | R                            |                           |
| EMK021 CG330JK-W  |               | CG C0G            | 33 p                        | ±5%             | 1000                  | 150             | 0.125±0.013            | R                            |                           |
| EMK021 CG390JK-W  |               | CG C0G            | 39 p                        | ±5%             | 1000                  | 150             | 0.125±0.013            | R                            |                           |
| EMK021 CG470JK-W  |               | CG C0G            | 47 p                        | ±5%             | 1000                  | 150             | 0.125±0.013            | R                            |                           |
| EMK021 CG560JK-W  |               | CG C0G            | 56 p                        | ±5%             | 1000                  | 150             | 0.125±0.013            | R                            |                           |
| LMK021 CG680JK-W  |               | CG C0G            | 68 p                        | ±5%             | 1000                  | 200             | 0.125±0.013            | R                            |                           |
| LMK021 CG820JK-W  |               | CG C0G            | 82 p                        | ±5%             | 1000                  | 200             | 0.125±0.013            | R                            |                           |
| LMK021 CG101JK-W  |               | CG C0G            | 100 p                       | ±5%             | 1000                  | 200             | 0.125±0.013            | R                            |                           |

042TYPE

[Temperature Characteristic CG : CG/C0G (−55 ~ +125°C)] 0.2mm thickness (C.D)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F]          | Capacitance tolerance | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|--------------------|---------------|-------------------|-----------------------------|--------------------------|-----------------------|-----------------|------------------------|------------------------------|---------------------------|
| TMK042 CG0R4[D]-W  |               | CG C0G            | 0.4 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 408                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R5[D]-W  |               | CG C0G            | 0.5 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 410                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R6[D]-W  |               | CG C0G            | 0.6 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 412                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R7[D]-W  |               | CG C0G            | 0.7 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 414                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R75[D]-W |               | CG C0G            | 0.75 p                      | ±0.05pF, ±0.1pF, ±0.25pF | 415                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R8[D]-W  |               | CG C0G            | 0.8 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 416                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG0R9[D]-W  |               | CG C0G            | 0.9 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 418                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG010[D]-W  |               | CG C0G            | 1 p                         | ±0.05pF, ±0.1pF, ±0.25pF | 420                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R1[D]-W  |               | CG C0G            | 1.1 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 422                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R2[D]-W  |               | CG C0G            | 1.2 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 424                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R3[D]-W  |               | CG C0G            | 1.3 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 426                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R4[D]-W  |               | CG C0G            | 1.4 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 428                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R5[D]-W  |               | CG C0G            | 1.5 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 430                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R6[D]-W  |               | CG C0G            | 1.6 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 432                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R7[D]-W  |               | CG C0G            | 1.7 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 434                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R8[D]-W  |               | CG C0G            | 1.8 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 436                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG1R9[D]-W  |               | CG C0G            | 1.9 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 438                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R0[D]-W  |               | CG C0G            | 2 p                         | ±0.05pF, ±0.1pF, ±0.25pF | 440                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R1[D]-W  |               | CG C0G            | 2.1 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 442                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R2[D]-W  |               | CG C0G            | 2.2 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 444                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R3[D]-W  |               | CG C0G            | 2.3 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 446                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R4[D]-W  |               | CG C0G            | 2.4 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 448                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R5[D]-W  |               | CG C0G            | 2.5 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 450                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R6[D]-W  |               | CG C0G            | 2.6 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 452                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R7[D]-W  |               | CG C0G            | 2.7 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 454                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R8[D]-W  |               | CG C0G            | 2.8 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 456                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG2R9[D]-W  |               | CG C0G            | 2.9 p                       | ±0.05pF, ±0.1pF, ±0.25pF | 458                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R0[D]-W  |               | CG C0G            | 3 p                         | ±0.05pF, ±0.1pF, ±0.25pF | 460                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R1[D]-W  |               | CG C0G            | 3.1 p                       | ±0.1pF, ±0.25pF          | 462                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R2[D]-W  |               | CG C0G            | 3.2 p                       | ±0.1pF, ±0.25pF          | 464                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R3[D]-W  |               | CG C0G            | 3.3 p                       | ±0.1pF, ±0.25pF          | 466                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R4[D]-W  |               | CG C0G            | 3.4 p                       | ±0.1pF, ±0.25pF          | 468                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R5[D]-W  |               | CG C0G            | 3.5 p                       | ±0.1pF, ±0.25pF          | 470                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R6[D]-W  |               | CG C0G            | 3.6 p                       | ±0.1pF, ±0.25pF          | 472                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R7[D]-W  |               | CG C0G            | 3.7 p                       | ±0.1pF, ±0.25pF          | 474                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R8[D]-W  |               | CG C0G            | 3.8 p                       | ±0.1pF, ±0.25pF          | 476                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG3R9[D]-W  |               | CG C0G            | 3.9 p                       | ±0.1pF, ±0.25pF          | 478                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG040[D]-W  |               | CG C0G            | 4 p                         | ±0.1pF, ±0.25pF          | 480                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R1[D]-W  |               | CG C0G            | 4.1 p                       | ±0.1pF, ±0.25pF          | 482                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R2[D]-W  |               | CG C0G            | 4.2 p                       | ±0.1pF, ±0.25pF          | 484                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R3[D]-W  |               | CG C0G            | 4.3 p                       | ±0.1pF, ±0.25pF          | 486                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R4[D]-W  |               | CG C0G            | 4.4 p                       | ±0.1pF, ±0.25pF          | 488                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R5[D]-W  |               | CG C0G            | 4.5 p                       | ±0.1pF, ±0.25pF          | 490                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R6[D]-W  |               | CG C0G            | 4.6 p                       | ±0.1pF, ±0.25pF          | 492                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R7[D]-W  |               | CG C0G            | 4.7 p                       | ±0.1pF, ±0.25pF          | 494                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R8[D]-W  |               | CG C0G            | 4.8 p                       | ±0.1pF, ±0.25pF          | 496                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG4R9[D]-W  |               | CG C0G            | 4.9 p                       | ±0.1pF, ±0.25pF          | 498                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R0[D]-W  |               | CG C0G            | 5 p                         | ±0.1pF, ±0.25pF          | 500                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R1[D]-W  |               | CG C0G            | 5.1 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 502                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R2[D]-W  |               | CG C0G            | 5.2 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 504                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R3[D]-W  |               | CG C0G            | 5.3 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 506                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R4[D]-W  |               | CG C0G            | 5.4 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 508                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R5[D]-W  |               | CG C0G            | 5.5 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 510                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R6[D]-W  |               | CG C0G            | 5.6 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 512                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R7[D]-W  |               | CG C0G            | 5.7 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 514                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG5R8[D]-W  |               | CG C0G            | 5.8 p                       | ±0.1pF, ±0.25pF, ±0.5pF  | 516                   | 200             | 0.2±0.02               | R                            |                           |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

## for General Electronic Equipment

PARTS NUMBER

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F]         | Capacitance tolerance | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-------------------------|-----------------------|-----------------|------------------------|------------------------------|---------------------------|
| TMK042 CG5R9[D]-W |               | CG C0G            | 5.9 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 518                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG060[D]-W |               | CG C0G            | 6 p                         | ±0.1pF, ±0.25pF, ±0.5pF | 520                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG061[D]-W |               | CG C0G            | 6.1 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 522                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG062[D]-W |               | CG C0G            | 6.2 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 524                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG063[D]-W |               | CG C0G            | 6.3 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 526                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG064[D]-W |               | CG C0G            | 6.4 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 528                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG065[D]-W |               | CG C0G            | 6.5 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 530                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG066[D]-W |               | CG C0G            | 6.6 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 532                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG067[D]-W |               | CG C0G            | 6.7 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 534                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG068[D]-W |               | CG C0G            | 6.8 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 536                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG069[D]-W |               | CG C0G            | 6.9 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 538                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG070[D]-W |               | CG C0G            | 7 p                         | ±0.1pF, ±0.25pF, ±0.5pF | 540                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG071[D]-W |               | CG C0G            | 7.1 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 542                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG072[D]-W |               | CG C0G            | 7.2 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 544                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG073[D]-W |               | CG C0G            | 7.3 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 546                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG074[D]-W |               | CG C0G            | 7.4 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 548                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG075[D]-W |               | CG C0G            | 7.5 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 550                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG076[D]-W |               | CG C0G            | 7.6 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 552                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG077[D]-W |               | CG C0G            | 7.7 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 554                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG078[D]-W |               | CG C0G            | 7.8 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 556                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG079[D]-W |               | CG C0G            | 7.9 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 558                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG080[D]-W |               | CG C0G            | 8 p                         | ±0.1pF, ±0.25pF, ±0.5pF | 560                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG081[D]-W |               | CG C0G            | 8.1 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 562                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG082[D]-W |               | CG C0G            | 8.2 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 564                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG083[D]-W |               | CG C0G            | 8.3 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 566                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG084[D]-W |               | CG C0G            | 8.4 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 568                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG085[D]-W |               | CG C0G            | 8.5 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 570                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG086[D]-W |               | CG C0G            | 8.6 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 572                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG087[D]-W |               | CG C0G            | 8.7 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 574                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG088[D]-W |               | CG C0G            | 8.8 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 576                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG089[D]-W |               | CG C0G            | 8.9 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 578                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG090[D]-W |               | CG C0G            | 9 p                         | ±0.1pF, ±0.25pF, ±0.5pF | 580                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG091[D]-W |               | CG C0G            | 9.1 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 582                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG092[D]-W |               | CG C0G            | 9.2 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 584                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG093[D]-W |               | CG C0G            | 9.3 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 586                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG094[D]-W |               | CG C0G            | 9.4 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 588                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG095[D]-W |               | CG C0G            | 9.5 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 590                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG096[D]-W |               | CG C0G            | 9.6 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 592                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG097[D]-W |               | CG C0G            | 9.7 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 594                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG098[D]-W |               | CG C0G            | 9.8 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 596                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG099[D]-W |               | CG C0G            | 9.9 p                       | ±0.1pF, ±0.25pF, ±0.5pF | 598                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG100D-D-W |               | CG C0G            | 10 p                        | ±0.5pF                  | 600                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG110J-D-W |               | CG C0G            | 11 p                        | ±5%                     | 620                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG120J-D-W |               | CG C0G            | 12 p                        | ±5%                     | 640                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG130J-D-W |               | CG C0G            | 13 p                        | ±5%                     | 660                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG150J-D-W |               | CG C0G            | 15 p                        | ±5%                     | 700                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG160J-C-W |               | CG C0G            | 16 p                        | ±5%                     | 720                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG180J-C-W |               | CG C0G            | 18 p                        | ±5%                     | 760                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG200J-C-W |               | CG C0G            | 20 p                        | ±5%                     | 800                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG320J-C-W |               | CG C0G            | 22 p                        | ±5%                     | 840                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG240J-C-W |               | CG C0G            | 24 p                        | ±5%                     | 880                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG270J-C-W |               | CG C0G            | 27 p                        | ±5%                     | 940                   | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG300J-C-W |               | CG C0G            | 30 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG330J-C-W |               | CG C0G            | 33 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG360J-C-W |               | CG C0G            | 36 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG390J-C-W |               | CG C0G            | 39 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG450J-C-W |               | CG C0G            | 45 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG470J-C-W |               | CG C0G            | 47 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG510J-C-W |               | CG C0G            | 51 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG560J-C-W |               | CG C0G            | 56 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG620J-C-W |               | CG C0G            | 62 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG680J-C-W |               | CG C0G            | 68 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG750J-C-W |               | CG C0G            | 75 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG820J-C-W |               | CG C0G            | 82 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG910J-C-W |               | CG C0G            | 91 p                        | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |
| TMK042 CG101J-C-W |               | CG C0G            | 100 p                       | ±5%                     | 1000                  | 200             | 0.2±0.02               | R                            |                           |

## for General Electronic Equipment

PARTS NUMBER

【Temperature Characteristic CG : CG/COG (−55~+125°C)】 0.2mm thickness (C,D)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance    | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|--------------------------|-----------------|------------------------|------------------------------|---------------------------|
| EMK042 CG0R4J-D-W |               | CG                | COG                         | 0.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 408             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R5J-D-W |               | CG                | COG                         | 0.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 410             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R6J-D-W |               | CG                | COG                         | 0.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 412             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R7J-D-W |               | CG                | COG                         | 0.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 414             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R7J-D-W |               | CG                | COG                         | 0.75 p          | ±0.05pF, ±0.1pF, ±0.25pF | 415             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R8J-D-W |               | CG                | COG                         | 0.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 416             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R9J-D-W |               | CG                | COG                         | 0.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 418             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG010J-D-W |               | CG                | COG                         | 1 p             | ±0.05pF, ±0.1pF, ±0.25pF | 420             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG011J-D-W |               | CG                | COG                         | 1.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 422             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG012J-D-W |               | CG                | COG                         | 1.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 424             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG013J-D-W |               | CG                | COG                         | 1.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 426             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG014J-D-W |               | CG                | COG                         | 1.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 428             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG015J-D-W |               | CG                | COG                         | 1.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 430             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG016J-D-W |               | CG                | COG                         | 1.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 432             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG017J-D-W |               | CG                | COG                         | 1.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 434             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG018J-D-W |               | CG                | COG                         | 1.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 436             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG018J-D-W |               | CG                | COG                         | 1.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 438             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG020J-D-W |               | CG                | COG                         | 2 p             | ±0.05pF, ±0.1pF, ±0.25pF | 440             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG021J-D-W |               | CG                | COG                         | 2.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 442             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG022J-D-W |               | CG                | COG                         | 2.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 444             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG023J-D-W |               | CG                | COG                         | 2.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 446             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG024J-D-W |               | CG                | COG                         | 2.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 448             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG025J-D-W |               | CG                | COG                         | 2.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 450             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG026J-D-W |               | CG                | COG                         | 2.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 452             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG027J-D-W |               | CG                | COG                         | 2.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 454             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG028J-D-W |               | CG                | COG                         | 2.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 456             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG029J-D-W |               | CG                | COG                         | 2.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 458             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG030J-D-W |               | CG                | COG                         | 3 p             | ±0.05pF, ±0.1pF, ±0.25pF | 460             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG031J-D-W |               | CG                | COG                         | 3.1 p           | ±0.1pF, ±0.25pF          | 462             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG032J-D-W |               | CG                | COG                         | 3.2 p           | ±0.1pF, ±0.25pF          | 464             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG033J-D-W |               | CG                | COG                         | 3.3 p           | ±0.1pF, ±0.25pF          | 466             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG034J-D-W |               | CG                | COG                         | 3.4 p           | ±0.1pF, ±0.25pF          | 468             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG035J-D-W |               | CG                | COG                         | 3.5 p           | ±0.1pF, ±0.25pF          | 470             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG036J-D-W |               | CG                | COG                         | 3.6 p           | ±0.1pF, ±0.25pF          | 472             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG037J-D-W |               | CG                | COG                         | 3.7 p           | ±0.1pF, ±0.25pF          | 474             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG038J-D-W |               | CG                | COG                         | 3.8 p           | ±0.1pF, ±0.25pF          | 476             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG038J-D-W |               | CG                | COG                         | 3.9 p           | ±0.1pF, ±0.25pF          | 478             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG040J-D-W |               | CG                | COG                         | 4 p             | ±0.1pF, ±0.25pF          | 480             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG041J-D-W |               | CG                | COG                         | 4.1 p           | ±0.1pF, ±0.25pF          | 482             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG042J-D-W |               | CG                | COG                         | 4.2 p           | ±0.1pF, ±0.25pF          | 484             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG043J-D-W |               | CG                | COG                         | 4.3 p           | ±0.1pF, ±0.25pF          | 486             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG044J-D-W |               | CG                | COG                         | 4.4 p           | ±0.1pF, ±0.25pF          | 488             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG045J-D-W |               | CG                | COG                         | 4.5 p           | ±0.1pF, ±0.25pF          | 490             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG046J-D-W |               | CG                | COG                         | 4.6 p           | ±0.1pF, ±0.25pF          | 492             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG047J-D-W |               | CG                | COG                         | 4.7 p           | ±0.1pF, ±0.25pF          | 494             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG048J-D-W |               | CG                | COG                         | 4.8 p           | ±0.1pF, ±0.25pF          | 496             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG049J-D-W |               | CG                | COG                         | 4.9 p           | ±0.1pF, ±0.25pF          | 498             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG050J-D-W |               | CG                | COG                         | 5 p             | ±0.1pF, ±0.25pF          | 500             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG051J-D-W |               | CG                | COG                         | 5.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 502             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG052J-D-W |               | CG                | COG                         | 5.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 504             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG053J-D-W |               | CG                | COG                         | 5.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 506             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG054J-D-W |               | CG                | COG                         | 5.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 508             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG055J-D-W |               | CG                | COG                         | 5.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 510             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG056J-D-W |               | CG                | COG                         | 5.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 512             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG057J-D-W |               | CG                | COG                         | 5.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 514             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG058J-D-W |               | CG                | COG                         | 5.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 516             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG059J-D-W |               | CG                | COG                         | 5.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 518             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG060J-D-W |               | CG                | COG                         | 6 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 520             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG061J-D-W |               | CG                | COG                         | 6.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 522             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG062J-D-W |               | CG                | COG                         | 6.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 524             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG063J-D-W |               | CG                | COG                         | 6.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 526             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG064J-D-W |               | CG                | COG                         | 6.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 528             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG065J-D-W |               | CG                | COG                         | 6.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 530             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG066J-D-W |               | CG                | COG                         | 6.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 532             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG067J-D-W |               | CG                | COG                         | 6.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 534             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG068J-D-W |               | CG                | COG                         | 6.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 536             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG068J-D-W |               | CG                | COG                         | 6.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 538             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG070J-D-W |               | CG                | COG                         | 7 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 540             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG071J-D-W |               | CG                | COG                         | 7.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 542             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG072J-D-W |               | CG                | COG                         | 7.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 544             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG073J-D-W |               | CG                | COG                         | 7.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 546             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG074J-D-W |               | CG                | COG                         | 7.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 548             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG075J-D-W |               | CG                | COG                         | 7.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 550             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG076J-D-W |               | CG                | COG                         | 7.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 552             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG077J-D-W |               | CG                | COG                         | 7.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 554             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG078J-D-W |               | CG                | COG                         | 7.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 556             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG078J-D-W |               | CG                | COG                         | 7.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 558             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG080J-D-W |               | CG                | COG                         | 8 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 560             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG081J-D-W |               | CG                | COG                         | 8.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 562             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG082J-D-W |               | CG                | COG                         | 8.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 564             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG083J-D-W |               | CG                | COG                         | 8.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 566             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG084J-D-W |               | CG                | COG                         | 8.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 568             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG085J-D-W |               | CG                | COG                         | 8.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 570             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG086J-D-W |               | CG                | COG                         | 8.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 572             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG087J-D-W |               | CG                | COG                         | 8.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 574             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG088J-D-W |               | CG                | COG                         | 8.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 576             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG089J-D-W |               | CG                | COG                         | 8.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 578             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG090J-D-W |               | CG                | COG                         | 9 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 580             | 200                    | 0.2±0.02                     | R                         |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

## for General Electronic Equipment

PARTS NUMBER

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance   | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|-------------------------|-----------------|------------------------|------------------------------|---------------------------|
| EMK042 CG0R1J-D-W |               | CG                | COG                         | 9.1 p           | ±0.1pF, ±0.25pF, ±0.5pF | 582             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R2J-D-W |               | CG                | COG                         | 9.2 p           | ±0.1pF, ±0.25pF, ±0.5pF | 584             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R3J-D-W |               | CG                | COG                         | 9.3 p           | ±0.1pF, ±0.25pF, ±0.5pF | 586             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R4J-D-W |               | CG                | COG                         | 9.4 p           | ±0.1pF, ±0.25pF, ±0.5pF | 588             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R5J-D-W |               | CG                | COG                         | 9.5 p           | ±0.1pF, ±0.25pF, ±0.5pF | 590             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R6J-D-W |               | CG                | COG                         | 9.6 p           | ±0.1pF, ±0.25pF, ±0.5pF | 592             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R7J-D-W |               | CG                | COG                         | 9.7 p           | ±0.1pF, ±0.25pF, ±0.5pF | 594             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R8J-D-W |               | CG                | COG                         | 9.8 p           | ±0.1pF, ±0.25pF, ±0.5pF | 596             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG0R9J-D-W |               | CG                | COG                         | 9.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 598             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG100D-J-W |               | CG                | COG                         | 10 p            | ±0.5pF                  | 600             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG110J-D-W |               | CG                | COG                         | 11 p            | ±5%                     | 620             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG120J-D-W |               | CG                | COG                         | 12 p            | ±5%                     | 640             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG130J-D-W |               | CG                | COG                         | 13 p            | ±5%                     | 660             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG150J-D-W |               | CG                | COG                         | 15 p            | ±5%                     | 700             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG160J-D-W |               | CG                | COG                         | 16 p            | ±5%                     | 720             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG180J-D-W |               | CG                | COG                         | 18 p            | ±5%                     | 760             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG200J-D-W |               | CG                | COG                         | 20 p            | ±5%                     | 800             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG220J-D-W |               | CG                | COG                         | 22 p            | ±5%                     | 840             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG240J-D-W |               | CG                | COG                         | 24 p            | ±5%                     | 880             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG270J-D-W |               | CG                | COG                         | 27 p            | ±5%                     | 940             | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG300J-D-W |               | CG                | COG                         | 30 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG330J-D-W |               | CG                | COG                         | 33 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG360J-D-W |               | CG                | COG                         | 36 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG390J-D-W |               | CG                | COG                         | 39 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG430J-D-W |               | CG                | COG                         | 43 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG470J-D-W |               | CG                | COG                         | 47 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG510J-D-W |               | CG                | COG                         | 51 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG560J-D-W |               | CG                | COG                         | 56 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG620J-D-W |               | CG                | COG                         | 62 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG680J-D-W |               | CG                | COG                         | 68 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG750J-D-W |               | CG                | COG                         | 75 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG820J-D-W |               | CG                | COG                         | 82 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG910J-D-W |               | CG                | COG                         | 91 p            | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG101J-D-W |               | CG                | COG                         | 100 p           | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG22J-D-W  |               | CG                | COG                         | 220 p           | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG24J-D-W  |               | CG                | COG                         | 240 p           | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG27J-D-W  |               | CG                | COG                         | 270 p           | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |
| EMK042 CG33J-D-W  |               | CG                | COG                         | 330 p           | ±5%                     | 1000            | 200                    | 0.2±0.02                     | R                         |

## for General Electronic Equipment

PARTS NUMBER

105TYPE

[Temperature Characteristic UΔ : UΔ/U2Δ (−55~+125℃)] 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance | Q (at 1MHz) min | HTLT Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering R/Reflow W/Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|-----------------------|-----------------|------------------------|------------------------------|---------------------------|
| UMK105 UK085CV-F |               |                   | UK U2K                      | 0.5 p           | ±0.25pF               | 410             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK105CV-F |               |                   | UK U2K                      | 1 p             | ±0.25pF               | 420             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK1R5CV-F |               |                   | UK U2K                      | 1.5 p           | ±0.25pF               | 430             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK020CV-F |               |                   | UK U2K                      | 2 p             | ±0.25pF               | 440             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK030CV-F |               |                   | UK U2K                      | 3 p             | ±0.25pF               | 460             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK040CV-F |               |                   | UK U2K                      | 4 p             | ±0.25pF               | 480             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK050CV-F |               |                   | UK U2K                      | 5 p             | ±0.25pF               | 500             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK060DV-F |               |                   | UK U2K                      | 6 p             | ±0.5pF                | 520             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK070DV-F |               |                   | UK U2K                      | 7 p             | ±0.5pF                | 540             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK080DV-F |               |                   | UK U2K                      | 8 p             | ±0.5pF                | 560             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK090DV-F |               |                   | UK U2K                      | 9 p             | ±0.5pF                | 580             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK100DV-F |               |                   | UK U2K                      | 10 p            | ±0.5pF                | 600             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK120JV-F |               |                   | UK U2K                      | 12 p            | ±5%                   | 640             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK150JV-F |               |                   | UK U2K                      | 15 p            | ±5%                   | 700             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK180JV-F |               |                   | UK U2K                      | 18 p            | ±5%                   | 760             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK220JV-F |               |                   | UK U2K                      | 22 p            | ±5%                   | 840             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK270JV-F |               |                   | UK U2K                      | 27 p            | ±5%                   | 940             | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK330JV-F |               |                   | UK U2K                      | 33 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK390JV-F |               |                   | UK U2K                      | 39 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK470JV-F |               |                   | UK U2K                      | 47 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK560JV-F |               |                   | UK U2K                      | 56 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK680JV-F |               |                   | UK U2K                      | 68 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK820JV-F |               |                   | UK U2K                      | 82 p            | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK101JV-F |               |                   | UK U2K                      | 100 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK121JV-F |               |                   | UK U2K                      | 120 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK151JV-F |               |                   | UK U2K                      | 150 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK181JV-F |               |                   | UK U2K                      | 180 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK221JV-F |               |                   | UK U2K                      | 220 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK271JV-F |               |                   | UK U2K                      | 270 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |
| UMK105 UK331JV-F |               |                   | UK U2K                      | 330 p           | ±5%                   | 1000            | 200                    | 0.5±0.05                     | R                         |

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## for General Electronic Equipment

PARTS NUMBER

Multilayer Ceramic Capacitors for High Frequency Applications (1GHz+)

021TYPE

[Temperature Characteristic CG : CG/COG (−55~+125℃)] 0.125mm thickness (K)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance    | Q (at 1GHz) (min) | HTLT Rated voltage x % | Thickness <sup>1)</sup> [mm] | Soldering R/Reflow W/Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|--------------------------|-------------------|------------------------|------------------------------|---------------------------|
| TVS021 CG082[K-W]  |               |                   | CG COG                      | 0.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG093[K-W]  |               |                   | CG COG                      | 0.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG094[K-W]  |               |                   | CG COG                      | 0.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG095[K-W]  |               |                   | CG COG                      | 0.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG096[K-W]  |               |                   | CG COG                      | 0.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG097[K-W]  |               |                   | CG COG                      | 0.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG0975[K-W] |               |                   | CG COG                      | 0.75 p          | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG098[K-W]  |               |                   | CG COG                      | 0.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG099[K-W]  |               |                   | CG COG                      | 0.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG100[K-W]  |               |                   | CG COG                      | 1 p             | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG101[K-W]  |               |                   | CG COG                      | 1.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG102[K-W]  |               |                   | CG COG                      | 1.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 250               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG103[K-W]  |               |                   | CG COG                      | 1.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 230               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG104[K-W]  |               |                   | CG COG                      | 1.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 220               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG105[K-W]  |               |                   | CG COG                      | 1.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 210               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG106[K-W]  |               |                   | CG COG                      | 1.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 190               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG107[K-W]  |               |                   | CG COG                      | 1.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 190               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG108[K-W]  |               |                   | CG COG                      | 1.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 180               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG109[K-W]  |               |                   | CG COG                      | 1.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 170               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG120[K-W]  |               |                   | CG COG                      | 2 p             | ±0.05pF, ±0.1pF, ±0.25pF | 160               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG121[K-W]  |               |                   | CG COG                      | 2.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 160               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG122[K-W]  |               |                   | CG COG                      | 2.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 150               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG203[K-W]  |               |                   | CG COG                      | 2.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 150               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG204[K-W]  |               |                   | CG COG                      | 2.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 140               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG205[K-W]  |               |                   | CG COG                      | 2.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 140               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG206[K-W]  |               |                   | CG COG                      | 2.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 130               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG207[K-W]  |               |                   | CG COG                      | 2.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 130               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG208[K-W]  |               |                   | CG COG                      | 2.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 120               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG209[K-W]  |               |                   | CG COG                      | 2.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 120               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG300[K-W]  |               |                   | CG COG                      | 3 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 120               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG301[K-W]  |               |                   | CG COG                      | 3.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 110               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG302[K-W]  |               |                   | CG COG                      | 3.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 110               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG303[K-W]  |               |                   | CG COG                      | 3.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 110               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG304[K-W]  |               |                   | CG COG                      | 3.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 110               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG305[K-W]  |               |                   | CG COG                      | 3.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 100               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG306[K-W]  |               |                   | CG COG                      | 3.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 100               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG307[K-W]  |               |                   | CG COG                      | 3.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 100               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG308[K-W]  |               |                   | CG COG                      | 3.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 100               | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG309[K-W]  |               |                   | CG COG                      | 3.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG400[K-W]  |               |                   | CG COG                      | 4 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG401[K-W]  |               |                   | CG COG                      | 4.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG402[K-W]  |               |                   | CG COG                      | 4.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG403[K-W]  |               |                   | CG COG                      | 4.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG404[K-W]  |               |                   | CG COG                      | 4.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 90                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG405[K-W]  |               |                   | CG COG                      | 4.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG406[K-W]  |               |                   | CG COG                      | 4.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG407[K-W]  |               |                   | CG COG                      | 4.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG408[K-W]  |               |                   | CG COG                      | 4.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG409[K-W]  |               |                   | CG COG                      | 4.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG500[K-W]  |               |                   | CG COG                      | 5 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG501[K-W]  |               |                   | CG COG                      | 5.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 80                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG502[K-W]  |               |                   | CG COG                      | 5.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG503[K-W]  |               |                   | CG COG                      | 5.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG504[K-W]  |               |                   | CG COG                      | 5.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG505[K-W]  |               |                   | CG COG                      | 5.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG506[K-W]  |               |                   | CG COG                      | 5.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG507[K-W]  |               |                   | CG COG                      | 5.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG508[K-W]  |               |                   | CG COG                      | 5.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG509[K-W]  |               |                   | CG COG                      | 5.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG600[K-W]  |               |                   | CG COG                      | 6 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG601[K-W]  |               |                   | CG COG                      | 6.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG602[K-W]  |               |                   | CG COG                      | 6.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG603[K-W]  |               |                   | CG COG                      | 6.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG604[K-W]  |               |                   | CG COG                      | 6.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG605[K-W]  |               |                   | CG COG                      | 6.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG606[K-W]  |               |                   | CG COG                      | 6.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG607[K-W]  |               |                   | CG COG                      | 6.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG608[K-W]  |               |                   | CG COG                      | 6.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG609[K-W]  |               |                   | CG COG                      | 6.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG700[K-W]  |               |                   | CG COG                      | 7 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG701[K-W]  |               |                   | CG COG                      | 7.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG702[K-W]  |               |                   | CG COG                      | 7.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG703[K-W]  |               |                   | CG COG                      | 7.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG704[K-W]  |               |                   | CG COG                      | 7.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG705[K-W]  |               |                   | CG COG                      | 7.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG706[K-W]  |               |                   | CG COG                      | 7.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG707[K-W]  |               |                   | CG COG                      | 7.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG708[K-W]  |               |                   | CG COG                      | 7.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG709[K-W]  |               |                   | CG COG                      | 7.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG800[K-W]  |               |                   | CG COG                      | 8 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG801[K-W]  |               |                   | CG COG                      | 8.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |
| TVS021 CG802[K-W]  |               |                   | CG COG                      | 8.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 50                | 200                    | 0.125±0.013                  | R                         |

## for General Electronic Equipment

PARTS NUMBER

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance   | Q (at 1GHz) (mm) | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|-------------------------|------------------|------------------------|------------------------------|---------------------------|
| EVS021 CG8R8[K]-W |               | 16                | CG CGG                      | 8.6 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R7[K]-W |               |                   | CG CGG                      | 8.7 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R6[K]-W |               |                   | CG CGG                      | 8.8 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R5[K]-W |               |                   | CG CGG                      | 8.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG090[K]-W |               |                   | CG CGG                      | 9 p             | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R1[K]-W |               |                   | CG CGG                      | 9.1 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R2[K]-W |               |                   | CG CGG                      | 9.2 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R3[K]-W |               |                   | CG CGG                      | 9.3 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R4[K]-W |               |                   | CG CGG                      | 9.4 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R5[K]-W |               |                   | CG CGG                      | 9.5 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R6[K]-W |               |                   | CG CGG                      | 9.6 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R7[K]-W |               |                   | CG CGG                      | 9.7 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R8[K]-W |               |                   | CG CGG                      | 9.8 p           | ±0.1pF, ±0.25pF, ±0.5pF | 40               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG8R9[K]-W |               |                   | CG CGG                      | 9.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 40               | 200                    | 0.125±0.013                  | R                         |
| EVS021 CG100[K]-W |               |                   | CG CGG                      | 10 p            | ±2%, ±5%                | 50               | 200                    | 0.125±0.013                  | R                         |

042TYPE

[Temperature Characteristic CG : CG/CGG (−55~+125°C)] 0.2mm thickness (C)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance    | Q (at 1GHz) (mm) | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|--------------------------|------------------|------------------------|------------------------------|---------------------------|
| TVS042 CG0R2[C]-W |               | 25                | CG CGG                      | 0.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R3[C]-W |               |                   | CG CGG                      | 0.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R4[C]-W |               |                   | CG CGG                      | 0.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R5[C]-W |               |                   | CG CGG                      | 0.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R6[C]-W |               |                   | CG CGG                      | 0.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R7[C]-W |               |                   | CG CGG                      | 0.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R7[C]-W |               |                   | CG CGG                      | 0.75 p          | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R8[C]-W |               |                   | CG CGG                      | 0.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG0R9[C]-W |               |                   | CG CGG                      | 0.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG010[C]-W |               |                   | CG CGG                      | 1 p             | ±0.05pF, ±0.1pF, ±0.25pF | 300              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R1[C]-W |               |                   | CG CGG                      | 1.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 280              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R2[C]-W |               |                   | CG CGG                      | 1.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 270              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R3[C]-W |               |                   | CG CGG                      | 1.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 260              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R4[C]-W |               |                   | CG CGG                      | 1.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 250              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R5[C]-W |               |                   | CG CGG                      | 1.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 240              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R6[C]-W |               |                   | CG CGG                      | 1.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 230              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R7[C]-W |               |                   | CG CGG                      | 1.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 220              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R8[C]-W |               |                   | CG CGG                      | 1.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 210              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG1R9[C]-W |               |                   | CG CGG                      | 1.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 200              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG020[C]-W |               |                   | CG CGG                      | 2 p             | ±0.05pF, ±0.1pF, ±0.25pF | 190              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R1[C]-W |               |                   | CG CGG                      | 2.1 p           | ±0.05pF, ±0.1pF, ±0.25pF | 185              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R2[C]-W |               |                   | CG CGG                      | 2.2 p           | ±0.05pF, ±0.1pF, ±0.25pF | 180              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R3[C]-W |               |                   | CG CGG                      | 2.3 p           | ±0.05pF, ±0.1pF, ±0.25pF | 175              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R4[C]-W |               |                   | CG CGG                      | 2.4 p           | ±0.05pF, ±0.1pF, ±0.25pF | 170              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R5[C]-W |               |                   | CG CGG                      | 2.5 p           | ±0.05pF, ±0.1pF, ±0.25pF | 160              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R6[C]-W |               |                   | CG CGG                      | 2.6 p           | ±0.05pF, ±0.1pF, ±0.25pF | 155              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R7[C]-W |               |                   | CG CGG                      | 2.7 p           | ±0.05pF, ±0.1pF, ±0.25pF | 150              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R8[C]-W |               |                   | CG CGG                      | 2.8 p           | ±0.05pF, ±0.1pF, ±0.25pF | 140              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG2R9[C]-W |               |                   | CG CGG                      | 2.9 p           | ±0.05pF, ±0.1pF, ±0.25pF | 135              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG030[C]-W |               |                   | CG CGG                      | 3 p             | ±0.05pF, ±0.1pF, ±0.25pF | 130              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R1[C]-W |               |                   | CG CGG                      | 3.1 p           | ±0.1pF, ±0.25pF          | 125              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R2[C]-W |               |                   | CG CGG                      | 3.2 p           | ±0.1pF, ±0.25pF          | 125              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R3[C]-W |               |                   | CG CGG                      | 3.3 p           | ±0.1pF, ±0.25pF          | 120              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R4[C]-W |               |                   | CG CGG                      | 3.4 p           | ±0.1pF, ±0.25pF          | 120              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R5[C]-W |               |                   | CG CGG                      | 3.5 p           | ±0.1pF, ±0.25pF          | 110              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R6[C]-W |               |                   | CG CGG                      | 3.6 p           | ±0.1pF, ±0.25pF          | 110              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R7[C]-W |               |                   | CG CGG                      | 3.7 p           | ±0.1pF, ±0.25pF          | 110              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R8[C]-W |               |                   | CG CGG                      | 3.8 p           | ±0.1pF, ±0.25pF          | 100              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG3R9[C]-W |               |                   | CG CGG                      | 3.9 p           | ±0.1pF, ±0.25pF          | 100              | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG040[C]-W |               |                   | CG CGG                      | 4 p             | ±0.1pF, ±0.25pF          | 90               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R1[C]-W |               |                   | CG CGG                      | 4.1 p           | ±0.1pF, ±0.25pF          | 90               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R2[C]-W |               |                   | CG CGG                      | 4.2 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R3[C]-W |               |                   | CG CGG                      | 4.3 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R4[C]-W |               |                   | CG CGG                      | 4.4 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R5[C]-W |               |                   | CG CGG                      | 4.5 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R6[C]-W |               |                   | CG CGG                      | 4.6 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R7[C]-W |               |                   | CG CGG                      | 4.7 p           | ±0.1pF, ±0.25pF          | 85               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R8[C]-W |               |                   | CG CGG                      | 4.8 p           | ±0.1pF, ±0.25pF          | 80               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG4R9[C]-W |               |                   | CG CGG                      | 4.9 p           | ±0.1pF, ±0.25pF          | 80               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG050[C]-W |               |                   | CG CGG                      | 5 p             | ±0.1pF, ±0.25pF          | 80               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R1[C]-W |               |                   | CG CGG                      | 5.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 75               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R2[C]-W |               |                   | CG CGG                      | 5.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 75               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R3[C]-W |               |                   | CG CGG                      | 5.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 75               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R4[C]-W |               |                   | CG CGG                      | 5.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R5[C]-W |               |                   | CG CGG                      | 5.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R6[C]-W |               |                   | CG CGG                      | 5.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R7[C]-W |               |                   | CG CGG                      | 5.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R8[C]-W |               |                   | CG CGG                      | 5.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 70               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG5R9[C]-W |               |                   | CG CGG                      | 5.9 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG060[C]-W |               |                   | CG CGG                      | 6 p             | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R1[C]-W |               |                   | CG CGG                      | 6.1 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R2[C]-W |               |                   | CG CGG                      | 6.2 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R3[C]-W |               |                   | CG CGG                      | 6.3 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R4[C]-W |               |                   | CG CGG                      | 6.4 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R5[C]-W |               |                   | CG CGG                      | 6.5 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 65               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R6[C]-W |               |                   | CG CGG                      | 6.6 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R7[C]-W |               |                   | CG CGG                      | 6.7 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60               | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R8[C]-W |               |                   | CG CGG                      | 6.8 p           | ±0.1pF, ±0.25pF, ±0.5pF  | 60               | 200                    | 0.2±0.02                     | R                         |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

## for General Electronic Equipment

PARTS NUMBER

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance   | Q (at 1GHz) (min) | HTLT Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering R/Reflow W/Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|-------------------------|-------------------|------------------------|------------------------------|---------------------------|
| TVS042 CG8R8[C]-W |               | 25                | CG CGG                      | 6.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 80                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R7[C]-W |               |                   | CG CGG                      | 7 p             | ±0.1pF, ±0.25pF, ±0.5pF | 80                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R6[C]-W |               |                   | CG CGG                      | 7.1 p           | ±0.1pF, ±0.25pF, ±0.5pF | 80                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R5[C]-W |               |                   | CG CGG                      | 7.2 p           | ±0.1pF, ±0.25pF, ±0.5pF | 80                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R4[C]-W |               |                   | CG CGG                      | 7.3 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R3[C]-W |               |                   | CG CGG                      | 7.4 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R2[C]-W |               |                   | CG CGG                      | 7.5 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R1[C]-W |               |                   | CG CGG                      | 7.6 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG8R0[C]-W |               |                   | CG CGG                      | 7.7 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R9[C]-W |               |                   | CG CGG                      | 7.8 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R8[C]-W |               |                   | CG CGG                      | 7.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R7[C]-W |               |                   | CG CGG                      | 8 p             | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R6[C]-W |               |                   | CG CGG                      | 8.1 p           | ±0.1pF, ±0.25pF, ±0.5pF | 55                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R5[C]-W |               |                   | CG CGG                      | 8.2 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R4[C]-W |               |                   | CG CGG                      | 8.3 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R3[C]-W |               |                   | CG CGG                      | 8.4 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R2[C]-W |               |                   | CG CGG                      | 8.5 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R1[C]-W |               |                   | CG CGG                      | 8.6 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG7R0[C]-W |               |                   | CG CGG                      | 8.7 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R9[C]-W |               |                   | CG CGG                      | 8.8 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R8[C]-W |               |                   | CG CGG                      | 8.9 p           | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |
| TVS042 CG6R7[C]-W |               |                   | CG CGG                      | 9 p             | ±0.1pF, ±0.25pF, ±0.5pF | 50                | 200                    | 0.2±0.02                     | R                         |

## Super Low Distortion Multilayer Ceramic Capacitors

## 105TYPE

[Temperature Characteristic SD : Standard (−55~+125°C)] 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK105 SD391KV-F |               | 50                | Standard Type               | 390 p           | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| UMK105 SD471KV-F |               | 470 p             |                             | 470 p           | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| UMK105 SD561KV-F |               | 560 p             |                             | 560 p           | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| TMK105 SD681KV-F |               | 680 p             |                             | 680 p           | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| TMK105 SD821KV-F |               | 820 p             |                             | 820 p           | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| TMK105 SD102KV-F |               | 1000 p            |                             | 1000 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| TMK105 SD122KV-F |               | 1200 p            |                             | 1200 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| EMK105 SD152KV-F |               | 1500 p            |                             | 1500 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| EMK105 SD182KV-F |               | 1800 p            |                             | 1800 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| EMK105 SD222KV-F |               | 2200 p            |                             | 2200 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| EMK105 SD272KV-F |               | 2700 p            |                             | 2700 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| LMK105 SD323KV-F |               | 3300 p            |                             | 3300 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| LMK105 SD392KV-F |               | 3900 p            |                             | 3900 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |
| LMK105 SD472KV-F |               | 4700 p            |                             | 4700 p          | ±10                       | 0.1       | 200                       | 0.5±0.05                     | R                               |

[Temperature Characteristic SD : Standard (−55~+125°C)] 0.3mm thickness (P)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK105 SD152KP-F |               | 10                | Standard Type               | 1500 p          | ±10                       | 0.1       | 200                       | 0.3±0.03                     | R                               |
| JMK105 SD272KP-F |               | 6.3               |                             | 2700 p          | ±10                       | 0.1       | 200                       | 0.3±0.03                     | R                               |

## 107TYPE

[Temperature Characteristic SD : Standard (−55~+125°C)] 0.8mm thickness (A)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK107 SD102KA-T |               | 50                | Standard Type               | 1000 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD122KA-T |               | 1200 p            |                             | 1200 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD152KA-T |               | 1500 p            |                             | 1500 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD182KA-T |               | 1800 p            |                             | 1800 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD222KA-T |               | 2200 p            |                             | 2200 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD272KA-T |               | 2700 p            |                             | 2700 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| UMK107 SD332KA-T |               | 3300 p            |                             | 3300 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| TMK107 SD392KA-T |               | 3900 p            |                             | 3900 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| TMK107 SD472KA-T |               | 4700 p            |                             | 4700 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| EMK107 SD562KA-T |               | 5600 p            |                             | 5600 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| EMK107 SD682KA-T |               | 6800 p            |                             | 6800 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| EMK107 SD822KA-T |               | 8200 p            |                             | 8200 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| EMK107 SD103KA-T |               | 0.01 μ            | 16                          | 0.01 μ          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| LMK107 SD123KA-T |               | 0.012 μ           |                             | 0.012 μ         | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| LMK107 SD153KA-T |               | 0.015 μ           |                             | 0.015 μ         | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| LMK107 SD183KA-T |               | 0.018 μ           |                             | 0.018 μ         | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| LMK107 SD223KA-T |               | 0.022 μ           | 10                          | 0.022 μ         | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |

## 212TYPE

[Temperature Characteristic SD : Standard (−55~+125°C)] 1.25mm thickness (G)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| GMK212 SD183KG-T |               | 35                | Standard Type               | 0.018 μ         | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |
| GMK212 SD223KG-T |               |                   |                             | 0.022 μ         | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |
| GMK212 SD273KG-T |               |                   |                             | 0.027 μ         | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |
| LMK212 SD683KG-T |               | 10                |                             | 0.068 μ         | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |
| LMK212 SD823KG-T |               |                   |                             | 0.082 μ         | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |
| LMK212 SD104KG-T |               |                   |                             | 0.1 μ           | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |

[Temperature Characteristic SD : Standard (−55~+125°C)] 0.85mm thickness (D)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| UMK212 SD392KD-T |               | 50                | Standard Type               | 3900 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| UMK212 SD472KD-T |               | 4700 p            |                             | 4700 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| UMK212 SD562KD-T |               | 5600 p            |                             | 5600 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| UMK212 SD682KD-T |               | 6800 p            |                             | 6800 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| UMK212 SD822KD-T |               | 8200 p            |                             | 8200 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| UMK212 SD103KD-T |               | 0.01 μ            |                             | 0.01 μ          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| GMK212 SD123KD-T |               | 0.012 μ           |                             | 0.012 μ         | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| GMK212 SD153KD-T |               | 0.015 μ           |                             | 0.015 μ         | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| EMK212 SD333KD-T |               | 0.033 μ           |                             | 0.033 μ         | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| LMK212 SD473KD-T |               | 0.047 μ           |                             | 0.047 μ         | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |

## 316TYPE

[Temperature Characteristic SD : Standard (−55~+125°C)] 1.6mm thickness (L)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| TMK316 SD823KL-T |               | 25                | Standard Type               | 0.082 μ         | ±10                       | 0.1       | 200                       | 1.6±0.20                     | R                               |
| TMK316 SD104KL-T |               |                   |                             | 0.1 μ           | ±10                       | 0.1       | 200                       | 1.6±0.20                     | R                               |

[Temperature Characteristic SD : Standard (−55~+125°C)] 1.15mm thickness (F)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| GMK316 SD333KF-T |               | 35                | Standard Type               | 0.033 μ         | ±10                       | 0.1       | 200                       | 1.15±0.10                    | R                               |
| GMK316 SD393KF-T |               |                   |                             | 0.039 μ         | ±10                       | 0.1       | 200                       | 1.15±0.10                    | R                               |
| TMK316 SD473KF-T |               |                   |                             | 0.047 μ         | ±10                       | 0.1       | 200                       | 1.15±0.10                    | R                               |
| TMK316 SD563KF-T |               | 25                |                             | 0.056 μ         | ±10                       | 0.1       | 200                       | 1.15±0.10                    | R                               |
| TMK316 SD683KF-T |               |                   |                             | 0.068 μ         | ±10                       | 0.1       | 200                       | 1.15±0.10                    | R                               |

## for General Electronic Equipment

PARTS NUMBER

## Low Distortion High Value Multilayer Ceramic Capacitors(CF,LD)

## 107TYPE

【Temperature Characteristic LD : X5R (−55~+85°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| UMK107BLD224[A-T] |               | 50                | X5R                         | 0.22 μ          | ±10, ±20                  | 10        | 150               | 0.8±0.20/-0                  | R                         |
| TMK107BLD474[A-T] |               |                   | X5R                         | 0.47 μ          | ±10, ±20                  | 10        | 150               | 0.8±0.20/-0                  | R                         |
| TMK107BLD105[A-T] |               | 25                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150               | 0.8±0.20/-0                  | R                         |

## 212TYPE

【Temperature Characteristic LD : X5R (−55~+85°C)】 1.25mm thickness (G)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| GMK212 LD105[G-T] |               | 35                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150               | 1.25±0.10                    | R                         |
| GMK212BLD225[G-T] |               |                   | X5R                         | 2.2 μ           | ±10, ±20                  | 10        | 150               | 1.25±0.20/-0                 | R                         |

## 316TYPE

【Temperature Characteristic LD : X5R (−55~+85°C)】 1.6mm thickness (L)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| UMK316 LD105[L-T] |               | 50                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 150               | 1.6±0.20                     | R                         |
| GMK316BLD475[L-T] |               | 35                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150               | 1.6±0.30                     | R                         |
| TMK316BLD106[L-T] |               | 25                | X5R                         | 10 μ            | ±10, ±20                  | 10        | 150               | 1.6±0.30                     | R                         |

## 325TYPE

【Temperature Characteristic LD : X5R (−55~+85°C)】 1.9mm thickness (N)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| UMK325 LD105[N-T] |               | 50                | X5R                         | 1 μ             | ±10, ±20                  | 10        | 200               | 1.9±0.20                     | R                         |

【Temperature Characteristic LD : X5R (−55~+85°C)】 2.5mm thickness (M)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| UMK325 LD475[M-P] |               | 50                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 200               | 2.5±0.20                     | R                         |

## for General Electronic Equipment

PARTS NUMBER

## Medium-High Voltage Multilayer Ceramic Capacitors

## 105TYPE

【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.5mm thickness (V)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| HMK105 B7221[V-F] |               |                   | X7R                         | 220 p           | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7331[V-F] |               |                   | X7R                         | 330 p           | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7471[V-F] |               |                   | X7R                         | 470 p           | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7681[V-F] |               |                   | X7R                         | 680 p           | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7102[V-F] |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7152[V-F] |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7222[V-F] |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7332[V-F] |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |
| HMK105 B7472[V-F] |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 2.5       | 200               | 0.5±0.05                     | R                         |

【Temperature Characteristic CG : CG/COG (−55~+125°C)】 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | Q (at 1MHz) | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-------------|-------------------|------------------------------|---------------------------|
|                  |               |                   |                             |                 |                           | mm          | Rated voltage x % |                              |                           |
| HMK105 CG080DV-F |               |                   | CG COG                      | 8 p             | ±0.5pF                    | 560         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG090DV-F |               |                   | CG COG                      | 9 p             | ±0.5pF                    | 580         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG100DV-F |               |                   | CG COG                      | 10 p            | ±0.5pF                    | 600         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG120JV-F |               |                   | CG COG                      | 12 p            | ±5%                       | 640         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG150JV-F |               |                   | CG COG                      | 15 p            | ±5%                       | 700         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG180JV-F |               |                   | CG COG                      | 18 p            | ±5%                       | 760         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG220JV-F |               |                   | CG COG                      | 22 p            | ±5%                       | 840         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG240JV-F |               |                   | CG COG                      | 24 p            | ±5%                       | 880         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG270JV-F |               |                   | CG COG                      | 27 p            | ±5%                       | 940         | 200               | 0.5±0.05                     | R                         |
| HMK105 CG330JV-F |               |                   | CG COG                      | 33 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG390JV-F |               |                   | CG COG                      | 39 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG470JV-F |               |                   | CG COG                      | 47 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG560JV-F |               |                   | CG COG                      | 56 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG680JV-F |               |                   | CG COG                      | 68 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG820JV-F |               |                   | CG COG                      | 82 p            | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |
| HMK105 CG101JV-F |               |                   | CG COG                      | 100 p           | ±5%                       | 1000        | 200               | 0.5±0.05                     | R                         |

## 107TYPE

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| HMK107 BJ102[A-T] |               |                   | B X5R <sup>CT</sup>         | 1000 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ152[A-T] |               |                   | B X5R <sup>CT</sup>         | 1500 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ222[A-T] |               |                   | B X5R <sup>CT</sup>         | 2200 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ332[A-T] |               |                   | B X5R <sup>CT</sup>         | 3300 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ472[A-T] |               |                   | B X5R <sup>CT</sup>         | 4700 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ682[A-T] |               |                   | B X5R <sup>CT</sup>         | 6800 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ103[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.01 μ          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ153[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.015 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ223[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.022 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ333[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.033 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ473[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.047 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ104[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.1 μ           | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 BJ224[A-T] |               |                   | B X5R <sup>CT</sup>         | 0.22 μ          | ±10, ±20                  | 3.5       | 150               | 0.8±0.10                     | R                         |

【Temperature Characteristic C7 : X7S (−55~+125°C)】 0.8mm thickness (A)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                    |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| HMK107 C7224[A-TE] |               | 100               | X7S                         | 0.22 μ          | ±10, ±20                  | 3.5       | 150               | 0.8±0.10                     | R                         |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.8mm thickness (A)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>*)</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| HMK107 B7102[A-T] |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7152[A-T] |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7222[A-T] |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7332[A-T] |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7472[A-T] |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7682[A-T] |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7103[A-T] |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7153[A-T] |               |                   | X7R                         | 0.015 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7223[A-T] |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7333[A-T] |               |                   | X7R                         | 0.033 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7473[A-T] |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |
| HMK107 B7104[A-T] |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 3.5       | 200               | 0.8±0.10                     | R                         |

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## for General Electronic Equipment

■PARTS NUMBER

【Temperature Characteristic SD : Standard (−55~+125°C)】 0.8mm thickness (A)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK107 SD101KA-T |               |                   |                             | 100 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD121KA-T |               |                   |                             | 120 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD151KA-T |               |                   |                             | 150 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD181KA-T |               |                   |                             | 180 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD221KA-T |               |                   |                             | 220 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD271KA-T |               |                   |                             | 270 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD331KA-T |               |                   |                             | 330 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD391KA-T |               |                   |                             | 390 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD471KA-T |               |                   |                             | 470 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD561KA-T |               |                   |                             | 560 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD681KA-T |               |                   |                             | 680 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD821KA-T |               |                   |                             | 820 p           | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |
| HMK107 SD102KA-T |               |                   |                             | 1000 p          | ±10                       | 0.1       | 200                       | 0.8±0.10                     | R                               |

●212TYPE

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 1.25mm thickness (G)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK212 BJ103[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.01 μ          | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ153[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.015 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ223[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.022 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ333[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.033 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ473[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ683[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.068 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ104[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ24[G-T   |               |                   | B X5R <sup>*)</sup>         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 BJ474[G-TE |               |                   | B X5R <sup>*)</sup>         | 0.47 μ          | ±10, ±20                  | 3.5       | 150                       | 1.25±0.10                    | R                               |
| HMK212BJ105[G-TE  |               |                   | B X5R <sup>*)</sup>         | 1 μ             | ±10, ±20                  | 3.5       | 150                       | 1.25±0.20/-0                 | R                               |
| QMK212 BJ472[G-T  |               |                   | B X5R <sup>*)</sup>         | 4700 p          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 BJ682[G-T  |               |                   | B X5R <sup>*)</sup>         | 6800 p          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 BJ103[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.01 μ          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 BJ153[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.015 μ         | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 BJ223[G-T  |               |                   | B X5R <sup>*)</sup>         | 0.022 μ         | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 0.85mm thickness (D)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| QMK212 BJ102[D-T |               |                   | B X5R <sup>*)</sup>         | 1000 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 BJ152[D-T |               |                   | B X5R <sup>*)</sup>         | 1500 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 BJ222[D-T |               |                   | B X5R <sup>*)</sup>         | 2200 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 BJ332[D-T |               |                   | B X5R <sup>*)</sup>         | 3300 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |

【Temperature Characteristic C7 : X7S (−55~+125°C)】 1.25mm thickness (G)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK212 C7474[G-TE |               | 100               | X7S                         | 0.47 μ          | ±10, ±20                  | 3.5       | 150                       | 1.25±0.10                    | R                               |
| HMK212BCT105[G-TE |               | 100               | X7S                         | 1 μ             | ±10, ±20                  | 3.5       | 150                       | 1.25±0.20/-0                 | R                               |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 1.25mm thickness (G)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK212 B7103[G-T |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7153[G-T |               |                   | X7R                         | 0.015 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7223[G-T |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7333[G-T |               |                   | X7R                         | 0.033 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7473[G-T |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7683[G-T |               |                   | X7R                         | 0.068 μ         | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7104[G-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| HMK212 B7224[G-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.25±0.10                    | R                               |
| QMK212 B7472[G-T |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 B7682[G-T |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 B7103[G-T |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 B7153[G-T |               |                   | X7R                         | 0.015 μ         | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |
| QMK212 B7223[G-T |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 2.5       | 150                       | 1.25±0.10                    | R                               |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 0.85mm thickness (D)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| QMK212 B7102[D-T |               |                   | X7R                         | 1000 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 B7152[D-T |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 B7222[D-T |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |
| QMK212 B7332[D-T |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 2.5       | 150                       | 0.85±0.10                    | R                               |

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## for General Electronic Equipment

■PARTS NUMBER

【Temperature Characteristic SD : Standard (−55~+125°C)】 0.85mm thickness (D)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK212 SD222KD-T |               |                   |                             | 2200 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| HMK212 SD472KD-T |               | 100               |                             | 4700 p          | ±10                       | 0.1       | 200                       | 0.85±0.10                    | R                               |
| HMK212 SD101KD-T |               |                   |                             | 100 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD121KD-T |               |                   |                             | 120 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD151KD-T |               |                   |                             | 150 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD181KD-T |               |                   |                             | 180 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD221KD-T |               |                   |                             | 220 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD331KD-T |               |                   |                             | 330 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD391KD-T |               |                   |                             | 390 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD471KD-T |               |                   |                             | 470 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD561KD-T |               |                   |                             | 560 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD681KD-T |               |                   |                             | 680 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD821KD-T |               |                   |                             | 820 p           | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |
| QMK212 SD102KD-T |               |                   |                             | 1000 p          | ±10                       | 0.1       | 150                       | 0.85±0.10                    | R                               |

【Temperature Characteristic SD : Standard (−55~+125°C)】 1.25mm thickness (G)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK212 SD392KG-T |               | 100               | Standard Type               | 3900 p          | ±10                       | 0.1       | 200                       | 1.25±0.10                    | R                               |

●3161TYPE

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 1.6mm thickness (L)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK316 BJ473[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ683[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.068 μ         | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ104[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ154[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.15 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ224[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ334[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.33 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ474[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 BJ105[L-T  |               |                   | B X5R <sup>*)</sup>         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316ABJ225[L-TE |               |                   | B X5R <sup>*)</sup>         | 2.2 μ           | ±10, ±20                  | 3.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 BJ333[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.033 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 BJ473[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 BJ683[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.068 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 BJ104[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 BJ153[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.015 μ         | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |
| QMK316 BJ223[L-T  |               |                   | B X5R <sup>*)</sup>         | 0.022 μ         | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |

【Temperature Characteristic BJ : B (−25~+85°C)/X5R (−55~+85°C)】 1.15mm thickness (F)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| SMK316 BJ102[F-T |               |                   | B X5R <sup>*)</sup>         | 1000 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ152[F-T |               |                   | B X5R <sup>*)</sup>         | 1500 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ222[F-T |               |                   | B X5R <sup>*)</sup>         | 2200 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ332[F-T |               |                   | B X5R <sup>*)</sup>         | 3300 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ472[F-T |               |                   | B X5R <sup>*)</sup>         | 4700 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ682[F-T |               |                   | B X5R <sup>*)</sup>         | 6800 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 BJ103[F-T |               |                   | B X5R <sup>*)</sup>         | 0.01 μ          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |

【Temperature Characteristic C7 : X7S (−55~+125°C)】 1.6mm thickness (L)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK316AC7225[L-TE |               | 100               | X7S                         | 2.2 μ           | ±10, ±20                  | 3.5       | 150                       | 1.6±0.20                     | R                               |

【Temperature Characteristic B7 : X7R (−55~+125°C)】 1.6mm thickness (L)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK316 B7473[L-T |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7683[L-T |               |                   | X7R                         | 0.068 μ         | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7104[L-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7154[L-T |               |                   | X7R                         | 0.15 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7224[L-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7334[L-T |               |                   | X7R                         | 0.33 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7474[L-T |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| HMK316 B7105[L-T |               |                   | X7R                         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 1.6±0.20                     | R                               |
| QMK316 B7333[L-T |               |                   | X7R                         | 0.033 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 B7473[L-T |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 B7683[L-T |               |                   | X7R                         | 0.068 μ         | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| QMK316 B7104[L-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 1.6±0.20                     | R                               |
| SMK316 B7153[L-T |               |                   | X7R                         | 0.15 μ          | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |
| SMK316 B7223[L-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |
| SMK316AB7333[L-T |               |                   | X7R                         | 0.033 μ         | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |
| SMK316AB7473[L-T |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 2.5       | 120                       | 1.6±0.20                     | R                               |

## for General Electronic Equipment

PARTS NUMBER

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 1.15mm thickness(F)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| SMK316 B7102J[F-T |               | 630               | X7R                         | 1000 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7152J[F-T |               |                   | X7R                         | 1500 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7222J[F-T |               |                   | X7R                         | 2200 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7332J[F-T |               |                   | X7R                         | 3300 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7472J[F-T |               |                   | X7R                         | 4700 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7682J[F-T |               |                   | X7R                         | 6800 p          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |
| SMK316 B7103J[F-T |               |                   | X7R                         | 0.01 μ          | ±10, ±20                  | 2.5       | 120                       | 1.15±0.10                    | R                               |

## 【Temperature Characteristic SD : Standard(−55~+125°C)】 1.6mm thickness(L)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK316 SD223KL-T |               | 100               |                             | 0.022 μ         | ±10                       | 0.1       | 200                       | 1.6±0.20                     | R                               |
| QMK316 SD103KL-T |               | 250               | Standard Type               | 0.01 μ          | ±10                       | 0.1       | 150                       | 1.6±0.20                     | R                               |

## ● 325TYPE

## 【Temperature Characteristic BJ : B(−25~+85°C)/X5R(−55~+85°C)】 2.5mm thickness(M)

| Part number 1       | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|---------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 BJ225J[IM-P  |               | 100               | B X5R <sup>*)</sup>         | 2.2 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK325 BJ475J[IM-PE |               | 100               | B X5R <sup>*)</sup>         | 4.7 μ           | ±10, ±20                  | 3.5       | 150                       | 2.5±0.20                     | R                               |

## 【Temperature Characteristic BJ : B(−25~+85°C)/X5R(−55~+85°C)】 1.9mm thickness(N)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 BJ154J[N-T  |               | 100               | B X5R <sup>*)</sup>         | 0.15 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ224J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ334J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.33 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ474J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ684J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.68 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ105J[N-T  |               |                   | B X5R <sup>*)</sup>         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 BJ475J[N-TE |               | 250               | B X5R <sup>*)</sup>         | 4.7 μ           | ±10, ±20                  | 3.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ473J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ104J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ154J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.15 μ          | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ224J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.22 μ          | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 BJ223J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.022 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |
| SMK325 BJ333J[N-T  |               | 630               | B X5R <sup>*)</sup>         | 0.033 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |
| SMK325 BJ473J[N-T  |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |

## 【Temperature Characteristic BJ : B(−25~+85°C)/X5R(−55~+85°C)】 1.15mm thickness(F)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 BJ104J[F-T |               | 100               | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.15±0.10                    | R                               |

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 2.5mm thickness(M)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 B7225J[IM-P |               | 100               | X7R                         | 2.2 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 1.9mm thickness(N)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 B7154J[N-T |               | 100               | X7R                         | 0.15 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 B7224J[N-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 B7334J[N-T |               |                   | X7R                         | 0.33 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 B7474J[N-T |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 B7684J[N-T |               |                   | X7R                         | 0.68 μ          | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| HMK325 B7105J[N-T |               |                   | X7R                         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 1.9±0.20                     | R                               |
| QMK325 B7473J[N-T |               | 250               | X7R                         | 0.047 μ         | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 B7104J[N-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 B7154J[N-T |               |                   | X7R                         | 0.15 μ          | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| QMK325 B7224J[N-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 2.5       | 150                       | 1.9±0.20                     | R                               |
| SMK325 B7223J[N-T |               |                   | X7R                         | 0.022 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |
| SMK325 B7333J[N-T |               |                   | X7R                         | 0.033 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |
| SMK325 B7473J[N-T |               | 630               | X7R                         | 0.047 μ         | ±10, ±20                  | 2.5       | 120                       | 1.9±0.20                     | R                               |

## 【Temperature Characteristic C7 : X7S(−55~+125°C)】 2.5mm thickness(M)

| Part number 1       | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|---------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 C7475J[IM-PE |               | 100               | X7S                         | 4.7 μ           | ±10, ±20                  | 3.5       | 150                       | 2.5±0.20                     | R                               |

## 【Temperature Characteristic C7 : X7S(−55~+125°C)】 1.9mm thickness(N)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 C7475J[N-TE |               | 100               | X7S                         | 4.7 μ           | ±10, ±20                  | 3.5       | 150                       | 1.9±0.20                     | R                               |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

## for General Electronic Equipment

PARTS NUMBER

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 1.15mm thickness(F)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK325 B7104J[F-T |               | 100               | X7R                         | 0.1 μ           | ±10, ±20                  | 3.5       | 200                       | 1.15±0.10                    | R                               |

## ● 432TYPE

## 【Temperature Characteristic BJ : B(−25~+85°C)/X5R(−55~+85°C)】 2.5mm thickness(M)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK432 BJ474J[IM-T |               | 100               | B X5R <sup>*)</sup>         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 BJ105J[IM-T |               |                   | B X5R <sup>*)</sup>         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 BJ155J[IM-T |               |                   | B X5R <sup>*)</sup>         | 1.5 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 BJ225J[IM-T |               |                   | B X5R <sup>*)</sup>         | 2.2 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| QMK432 BJ104J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 BJ224J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.22 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 BJ334J[IM-T |               | 250               | B X5R <sup>*)</sup>         | 0.33 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 BJ474J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.47 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| SMK432 BJ473J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.047 μ         | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |
| SMK432 BJ683J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.068 μ         | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |
| SMK432 BJ104J[IM-T |               |                   | B X5R <sup>*)</sup>         | 0.1 μ           | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 2.5mm thickness(M)

| Part number 1      | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|--------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| HMK432 B7474J[IM-T |               | 100               | X7R                         | 0.47 μ          | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 B7105J[IM-T |               |                   | X7R                         | 1 μ             | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 B7155J[IM-T |               |                   | X7R                         | 1.5 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| HMK432 B7225J[IM-T |               |                   | X7R                         | 2.2 μ           | ±10, ±20                  | 3.5       | 200                       | 2.5±0.20                     | R                               |
| QMK432 B7104J[IM-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 B7224J[IM-T |               |                   | X7R                         | 0.22 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 B7334J[IM-T |               | 250               | X7R                         | 0.33 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| QMK432 B7474J[IM-T |               |                   | X7R                         | 0.47 μ          | ±10, ±20                  | 2.5       | 150                       | 2.5±0.20                     | R                               |
| SMK432 B7473J[IM-T |               |                   | X7R                         | 0.047 μ         | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |
| SMK432 B7683J[IM-T |               |                   | X7R                         | 0.068 μ         | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |
| SMK432 B7104J[IM-T |               |                   | X7R                         | 0.1 μ           | ±10, ±20                  | 2.5       | 120                       | 2.5±0.20                     | R                               |

## 【Temperature Characteristic B7 : X7R(−55~+125°C)】 2.0mm thickness(Y)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT<br>Rated voltage x % | Thickness <sup>*)</sup> [mm] | Soldering<br>R:Reflow<br>W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|---------------------------|------------------------------|---------------------------------|
| XMK432 B7222KY-TE |               | 2000              | X7R                         | 2200 p          | ±10                       | 2.5       | 110                       | 2.0±0/−0.30                  | R                               |
| XMK432 B7472KY-TE |               | 2000              | X7R                         | 4700 p          | ±10                       | 2.5       | 110                       | 2.0±0/−0.30                  | R                               |

► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

## for General Electronic Equipment

■ PARTS NUMBER

### LW Reversal Decoupling Capacitors (LWDC™)

#### ● 105TYPE

【Temperature Characteristic BJ : X5R (−55~+85℃)】 0.3mm thickness (P)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                  |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| TWK105 BJ104MP-F |               | 25                | X5R                         | 0.1 μ           | ±20                       | 5         | 150               | 0.3±0.05                     | R                         |
| EWK105 BJ224MP-F |               | 16                | X5R                         | 0.22 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| LWK105 BJ474MP-F |               | 10                | X5R                         | 0.47 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| JWK105 BJ104MP-F |               |                   | X5R <sup>11</sup>           | 0.1 μ           | ±20                       | 5         | 150               | 0.3±0.05                     | R                         |
| JWK105 BJ474MP-F |               |                   | X5R <sup>11</sup>           | 0.47 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| JWK105 BJ105MP-F |               | 6.3               | X5R                         | 1 μ             | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| JWK105 BJ225MP-F |               |                   | X5R                         | 2.2 μ           | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |

【Temperature Characteristic C6 : X6S (−55~+105℃), C7 : X7S (−55~+125℃)】 0.3mm thickness (P)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                  |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| EWK105 C6104MP-F |               | 16                | X6S                         | 0.1 μ           | ±20                       | 5         | 150               | 0.3±0.05                     | R                         |
| LWK105 C7104MP-F |               | 10                | X7S                         | 0.1 μ           | ±20                       | 5         | 150               | 0.3±0.05                     | R                         |
| LWK105 C6224MP-F |               |                   | X6S                         | 0.22 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| JWK105 C7104MP-F |               |                   | X7S                         | 0.1 μ           | ±20                       | 5         | 150               | 0.3±0.05                     | R                         |
| JWK105 C7224MP-F |               | 6.3               | X7S                         | 0.22 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| JWK105 C6474MP-F |               |                   | X6S                         | 0.47 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| AWK105 C6224MP-F |               |                   | X6S                         | 0.22 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| AWK105 C6474MP-F |               | 4                 | X6S                         | 0.47 μ          | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| AWK105 C6105MP-F |               |                   | X6S                         | 1 μ             | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |
| AWK105 C6225MP-F |               |                   | X6S                         | 2.2 μ           | ±20                       | 10        | 150               | 0.3±0.05                     | R                         |

#### ● 107TYPE

【Temperature Characteristic BJ : X5R (−55~+85℃)】 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                  |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| TWK107 BJ104MV-T |               | 25                | X5R <sup>11</sup>           | 0.1 μ           | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| EWK107 BJ224MV-T |               | 16                | X5R <sup>11</sup>           | 0.22 μ          | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| EWK107 BJ474MV-T |               |                   | X5R <sup>11</sup>           | 0.47 μ          | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| LWK107 BJ105MV-T |               | 10                | X5R                         | 1 μ             | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| LWK107 BJ225MV-T |               |                   | X5R                         | 2.2 μ           | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| JWK107 BJ105MV-T |               |                   | X5R <sup>11</sup>           | 1 μ             | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| JWK107 BJ225MV-T |               | 6.3               | X5R                         | 2.2 μ           | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| JWK107 BJ475MV-T |               |                   | X5R                         | 4.7 μ           | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| AWK107 BJ106MV-T |               | 4                 | X5R                         | 10 μ            | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |

【Temperature Characteristic B7 : X7R (−55~+125℃), C6 : X6S (−55~+105℃), C7 : X7S (−55~+125℃)】 0.5mm thickness (V)

| Part number 1    | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                  |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| TWK107 B7104MV-T |               | 25                | X7R                         | 0.1 μ           | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| EWK107 B7224MV-T |               | 16                | X7R                         | 0.22 μ          | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| EWK107 B7474MV-T |               |                   | X7R                         | 0.47 μ          | ±20                       | 5         | 150               | 0.5±0.05                     | R                         |
| JWK107 C7105MV-T |               | 6.3               | X7S                         | 1 μ             | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| AWK107 C7225MV-T |               | 4                 | X7S                         | 2.2 μ           | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| AWK107 C6475MV-T |               |                   | X6S                         | 4.7 μ           | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |
| AWK107 C6106MV-T |               | 2.5               | X6S                         | 10 μ            | ±20                       | 10        | 150               | 0.5±0.05                     | R                         |

#### ● 212TYPE

【Temperature Characteristic BJ : X5R (−55~+85℃)】 0.85mm thickness (D)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| TWK212 BJ475[D]-T |               | 25                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150               | 0.85±0.10                    | R                         |
| EWK212 BJ106MD-T  |               | 16                | X5R                         | 10 μ            | ±20                       | 10        | 150               | 0.85±0.10                    | R                         |
| LWK212 BJ475[D]-T |               | 10                | X5R                         | 4.7 μ           | ±10, ±20                  | 10        | 150               | 0.85±0.10                    | R                         |
| LWK212 BJ106MD-T  |               |                   | X5R                         | 10 μ            | ±20                       | 10        | 150               | 0.85±0.10                    | R                         |
| JWK212 BJ226MD-T  |               | 6.3               | X5R                         | 22 μ            | ±20                       | 10        | 150               | 0.85±0.10                    | R                         |

【Temperature Characteristic B7 : X7R (−55~+125℃), C6 : X6S (−55~+105℃)】 0.85mm thickness (D)

| Part number 1     | Part number 2 | Rated voltage [V] | Temperature characteristics | Capacitance [F] | Capacitance tolerance [%] | tan δ [%] | HTLT              | Thickness <sup>13</sup> [mm] | Soldering R:Reflow W:Wave |
|-------------------|---------------|-------------------|-----------------------------|-----------------|---------------------------|-----------|-------------------|------------------------------|---------------------------|
|                   |               |                   |                             |                 |                           |           | Rated voltage x % |                              |                           |
| TWK212 B7225[D]-T |               | 25                | X7R                         | 2.2 μ           | ±10, ±20                  | 5         | 150               | 0.85±0.10                    | R                         |
| EWK212 C6475[D]-T |               | 16                | X6S                         | 4.7 μ           | ±10, ±20                  | 10        | 150               | 0.85±0.10                    | R                         |
| LWK212 C6106MD-T  |               | 10                | X6S                         | 10 μ            | ±20                       | 10        | 150               | 0.85±0.10                    | R                         |
| AWK212 C6226MD-T  |               | 4                 | X6S                         | 22 μ            | ±20                       | 10        | 150               | 0.85±0.10                    | R                         |

## Multilayer Ceramic Capacitors

■ PACKAGING

### ① Minimum Quantity

#### ● Taped package

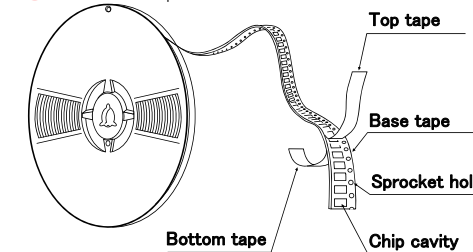
| Type(EIA)      | Thickness |      | Standard quantity [pcs] |                 |
|----------------|-----------|------|-------------------------|-----------------|
|                | mm        | code | Paper tape              | Embossed tape   |
| □MK021(008004) | 0.125     | K    | —                       | 50000           |
| □VS021(008004) |           |      | —                       |                 |
| □MK042(01005)  | 0.2       | C, D | —                       | 40000           |
| □VS042(01005)  | 0.2       | C    | —                       |                 |
| □MK063(0201)   | 0.3       | P, T | 15000                   | —               |
| □WK105(0204) ※ | 0.3       | P    | 10000                   | —               |
|                | 0.13      | H    | —                       | 20000           |
|                | 0.18      | E    | —                       | 15000           |
| □MK105(0402)   | 0.2       | C    | 20000                   | —               |
| □MF105(0402)   | 0.3       | P    | 15000                   | —               |
|                | 0.5       | V    | 10000                   | —               |
| □VK105(0402)   | 0.5       | W    | 10000                   | —               |
| □MK107(0603)   | 0.45      | K    | 4000                    | —               |
| □WK107(0306) ※ | 0.5       | V    | —                       | 4000            |
| □MF107(0603)   | 0.8       | A    | 4000                    | —               |
| □VS107(0603)   | 0.7       | C    | 4000                    | —               |
| □MJ107(0603)   | 0.8       | A    | 3000                    | 3000            |
| □MK212(0805)   | 0.45      | K    | 4000                    | —               |
| □WK212(0508) ※ | 0.85      | D    |                         |                 |
| □MF212(0805)   | 1.25      | G    | —                       | 3000            |
| □VS212(0805)   | 0.85      | D    | 4000                    | —               |
| □MJ212(0805)   | 0.85      | D    | 4000                    | —               |
|                | 1.25      | G    | —                       | 2000            |
| □MK316(1206)   | 0.85      | D    | 4000                    | —               |
| □MF316(1206)   | 1.15      | F    | —                       | 3000            |
|                | 1.6       | L    | —                       | 2000            |
| □MJ316(1206)   | 1.15      | F    | —                       | 3000            |
|                | 1.6       | L    | —                       | 2000            |
|                | 0.85      | D    | —                       |                 |
| □MK325(1210)   | 1.15      | F    | —                       | 2000            |
| □MF325(1210)   | 1.9       | N    |                         |                 |
|                | 2.0max.   | Y    | —                       |                 |
|                | 2.5       | M    | —                       | 1000            |
| □MJ325(1210)   | 1.9       | N    | —                       | 2000            |
|                | 2.5       | M    | —                       | 500(T), 1000(P) |
| □MK432(1812)   | 2.5       | M    | —                       | 500             |

Note : ※ LW Reverse type.

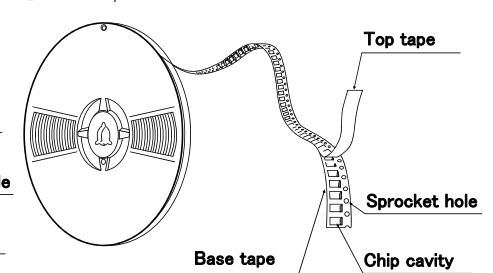
### ② Taping material

※No bottom tape for pressed carrier tape

#### ● Card board carrier tape

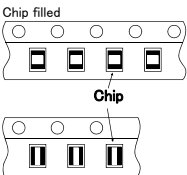


#### ● Embossed tape



► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (<http://www.ty-top.com/>).

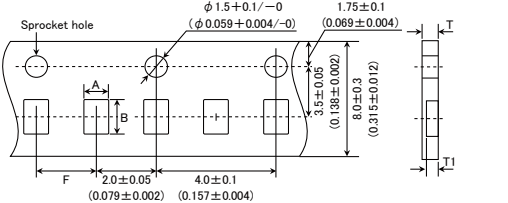
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③ Representative taping dimensions

● Paper Tape (8mm wide)

● Pressed carrier tape ( 2mm pitch)

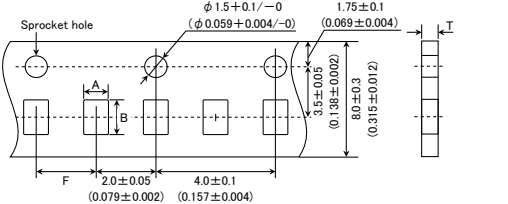


| Type(EIA)           | Chip Cavity |      | Insertion Pitch | Tape Thickness |          |
|---------------------|-------------|------|-----------------|----------------|----------|
|                     | A           | B    |                 | T              | T1       |
| □MK063(0201)        | 0.37        | 0.67 | 2.0±0.05        | 0.45max.       | 0.42max. |
| □WK105(0204) ※      | 0.65        | 1.15 |                 | 0.4max.        | 0.3max.  |
| □MK105(0402) (*1 C) |             |      |                 | 0.45max.       | 0.42max. |
| □MK105(0402) (*1 P) |             |      |                 |                |          |

Note \*1 Thickness, C:0.2mm ,P:0.3mm. ※ LW Reverse type.

Unit: mm

● Punched carrier tape (2mm pitch)



| Type(EIA)     | Chip Cavity |      | Insertion Pitch | Tape Thickness |
|---------------|-------------|------|-----------------|----------------|
|               | A           | B    |                 |                |
| □MK105 (0402) | 0.65        | 1.15 | 2.0±0.05        | 0.8max.        |
| □MF105 (0402) |             |      |                 |                |
| □VK105 (0402) |             |      |                 |                |

Unit: mm

● Punched carrier tape (4mm pitch)

