

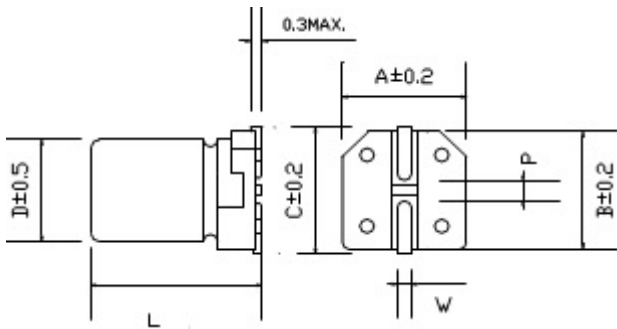
## Features

- SMD TYPE. Conductive Polymer Aluminum Solid Capacitors
- This type has lowest ESR level and excellent performance at high frequency through low profile.
- Ideal capacitor for digital and high frequency devices.

## Characteristics

|                                                                                                                  |                                                                          |                                       |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------|
| <b>Voltage Range</b>                                                                                             | 2.5 ~35VDC                                                               |                                       |
| <b>Capacitance Range</b>                                                                                         | 6.8uF ~ 1500uF                                                           |                                       |
| <b>Temperature Range</b>                                                                                         | -55 ~ +105°C                                                             |                                       |
| <b>Capacitance Tolerance</b>                                                                                     | M=+20%/-20% , K=+10%/-10% (at 20°C , 120Hz)                              |                                       |
| <b>Leakage Current</b>                                                                                           | Capacitance(μF) x Rated Voltage(Vdc) After 2minutes, see standard rating |                                       |
| <b>Dissipation Factor ( tanδ) 20°C 120Hz</b>                                                                     | See standard rating                                                      |                                       |
| <b>ESR ( at 100K~300K Hz, 20°C )</b>                                                                             | See standard rating                                                      |                                       |
| <b>Endurance</b><br>(Rated Voltage at 105°C 2000h, restored to 20°C)                                             | Appearance                                                               | ≤ No significant damage               |
|                                                                                                                  | Capacitance Change (μF)                                                  | Within ±20% of initial measured value |
|                                                                                                                  | Dissipation Factor (tanδ)                                                | ≤ 150% of an initial specified value  |
|                                                                                                                  | ESR (mΩ)                                                                 | ≤ 150% of an initial specified value  |
|                                                                                                                  | Leakage Current (μA)                                                     | ≤ Initial specified value             |
| <b>Moisture Resistance</b><br>(Test at 60°C, 90~95RH for 1000hrs, L.C. should be tested after voltage treatment) | Capacitance Change (μF)                                                  | Within ±20% of initial measured value |
|                                                                                                                  | Dissipation Factor (tanδ)                                                | ≤ 150% of an initial specified value  |
|                                                                                                                  | ESR (mΩ)                                                                 | ≤ 150% of an initial specified value  |
|                                                                                                                  | Leakage Current (μA)                                                     | ≤ Initial specified value             |
| <b>Resistance to Soldering Heat</b>                                                                              | Capacitance Change (μF)                                                  | Within ±10% of initial measured value |
|                                                                                                                  | Dissipation Factor (tanδ)                                                | ≤ 130% of an initial specified value  |
|                                                                                                                  | ESR (mΩ)                                                                 | ≤ 130% of an initial specified value  |
|                                                                                                                  | Leakage Current (μA)                                                     | ≤ Initial specified value             |

## Diagram of dimensions



## Lead Spacing And Diameter

| Case Size | φD  | L             | A    | B    | C    | W         | P±0.2 |
|-----------|-----|---------------|------|------|------|-----------|-------|
| C6        | 6.3 | 6.0±0.2       | 6.6  | 6.6  | 7.4  | 0.5 ~ 0.8 | 2.0   |
| C7        | 6.3 | 7.0±0.2       | 6.6  | 6.6  | 7.4  | 0.5 ~ 0.8 | 2.0   |
| D7        | 8   | 6.7±0.3       | 8.4  | 8.4  | 9.2  | 0.7 ~ 1.1 | 3.1   |
| D12       | 8   | 12.0±0.5      | 8.4  | 8.4  | 9.2  | 0.7 ~ 1.1 | 3.1   |
| F8        | 10  | 8.0±0.3       | 10.4 | 10.4 | 11.2 | 0.7 ~ 1.1 | 4.7   |
| F10       | 10  | 10.0-0.1/+0.5 | 10.4 | 10.4 | 11.2 | 0.7 ~ 1.1 | 4.7   |
| F13       | 10  | 12.7±0.5      | 10.4 | 10.4 | 11.2 | 0.7 ~ 1.1 | 4.7   |

## Frequency coefficient for ripple current

| Frequency   | 120Hz ≤ f < 1KHz | 1KHz ≤ f < 10KHz | 10KHz ≤ f < 100KHz | 100KHz ≤ f < 500KHz |
|-------------|------------------|------------------|--------------------|---------------------|
| Coefficient | 0.05             | 0.3              | 0.7                | 1                   |

**Ripple Current: mA /rms at 100kHz, 105°C**

| W.V.(V) | Capacitance<br>(μF) | Size<br>φDxL(mm) | Size<br>Code | Tanδ<br>(120Hz,20C) | L.C.<br>(μA) | E.S.R.<br>(100k-300kHz,mΩ,2<br>0°C MAX) | Rated R.C<br>(mArms at 100kHz,<br>105°C) |
|---------|---------------------|------------------|--------------|---------------------|--------------|-----------------------------------------|------------------------------------------|
| 2.5(0E) | 220                 | 6.3x6            | C6           | 0.12                | 110          | 25                                      | 2500                                     |
|         | 560                 | 8x7              | D7           | 0.12                | 280          | 23                                      | 3100                                     |
|         | 680                 | 8x12             | D12          | 0.18                | 340          | 13                                      | 4770                                     |
|         | 1000                | 10x8             | F8           | 0.12                | 500          | 19                                      | 4240                                     |
|         | 1200                | 10x10            | F10          | 0.18                | 750          | 13                                      | 5200                                     |
|         | 1500                | 10x12.7          | F13          | 0.18                | 750          | 10                                      | 5500                                     |
| 4(0G)   | 150                 | 6.3x6            | C6           | 0.12                | 120          | 26                                      | 2450                                     |
|         | 220                 | 8x7              | D7           | 0.12                | 176          | 25                                      | 3020                                     |
|         | 330                 | 8x7              | D7           | 0.12                | 264          | 25                                      | 3020                                     |
|         | 470                 | 10x8             | F8           | 0.12                | 376          | 20                                      | 4130                                     |
|         | 560                 | 8x12             | D12          | 0.18                | 448          | 12                                      | 4770                                     |
|         | 680                 | 10x8             | F8           | 0.12                | 544          | 20                                      | 4130                                     |
|         | 820                 | 10x10            | F10          | 0.18                | 656          | 13                                      | 5200                                     |
|         | 1200                | 10x12.7          | F13          | 0.18                | 960          | 10                                      | 5500                                     |
| 6.3(0J) | 82                  | 6.3x6            | C6           | 0.12                | 103          | 27                                      | 2400                                     |
|         | 100                 | 6.3x6            | C6           | 0.12                | 126          | 27                                      | 2400                                     |
|         | 120                 | 6.3x7            | C7           | 0.12                | 151          | 30                                      | 2010                                     |
|         | 150                 | 6.3x7            | C7           | 0.12                | 189          | 30                                      | 2250                                     |
|         |                     | 8x7              | D7           | 0.12                | 189          | 25                                      | 3020                                     |
|         | 220                 | 6.3x7            | C7           | 0.12                | 277          | 30                                      | 2250                                     |
|         |                     | 8x7              | D7           | 0.12                | 277          | 25                                      | 3020                                     |
|         | 330                 | 10x8             | F8           | 0.12                | 416          | 20                                      | 4130                                     |
|         | 470                 | 8x12             | D12          | 0.15                | 592          | 12                                      | 4770                                     |
|         | 560                 | 10x10            | F10          | 0.15                | 706          | 16                                      | 4700                                     |
|         | 820                 | 10x12.7          | F13          | 0.15                | 1033         | 10                                      | 5500                                     |
| 10(1A)  | 56                  | 6.3x6            | C6           | 0.10                | 112          | 31                                      | 2250                                     |
|         | 150                 | 8x7              | D7           | 0.10                | 300          | 27                                      | 2800                                     |
|         | 330                 | 10x8             | F8           | 0.10                | 660          | 24                                      | 3770                                     |
|         |                     | 8x12             | D12          | 0.15                | 660          | 14                                      | 4420                                     |
|         | 470                 | 10x10            | F10          | 0.15                | 940          | 18                                      | 4400                                     |
|         | 560                 | 10x12.7          | F13          | 0.15                | 1120         | 12                                      | 5300                                     |
| 16(1C)  | 47                  | 6.3x6            | C6           | 0.10                | 150          | 50                                      | 1650                                     |
|         | 82                  | 8x7              | D7           | 0.10                | 262          | 30                                      | 2700                                     |
|         | 180                 | 8x12             | D12          | 0.15                | 576          | 16                                      | 4360                                     |
|         |                     | 10x8             | F8           | 0.10                | 576          | 26                                      | 3430                                     |
|         | 220                 | 10x10            | F10          | 0.15                | 704          | 20                                      | 4200                                     |
|         | 330                 | 10x12.7          | F13          | 0.15                | 792          | 14                                      | 5050                                     |
| 20(1D)  | 22                  | 6.3x6            | C6           | 0.10                | 88           | 50                                      | 1650                                     |
|         | 47                  | 8x7              | D7           | 0.10                | 188          | 45                                      | 2000                                     |
|         | 82                  | 10x8             | F8           | 0.10                | 328          | 40                                      | 2500                                     |
|         | 100                 | 8x12             | D12          | 0.15                | 400          | 24                                      | 3320                                     |
|         |                     | 10x10            | F10          | 0.15                | 400          | 25                                      | 3700                                     |
|         | 150                 | 10x12.7          | F13          | 0.15                | 600          | 20                                      | 4320                                     |
|         | 330                 | 10x12.7          | F13          | 0.12                | 1320         | 26                                      | 2700                                     |
| 25(1E)  | 6.8                 | 6.3X6            | C6           | 0.10                | 170          | 80                                      | 1200                                     |
|         | 33                  | 8X12             | D12          | 0.12                | 413          | 30                                      | 2980                                     |
|         | 56                  | 10X12.7          | F13          | 0.12                | 700          | 28                                      | 3800                                     |
|         | 270                 | 10X12.7          | F13          | 0.12                | 1350         | 27                                      | 2700                                     |
| 35(1V)  | 39                  | 8X12             | D12          | 0.12                | 273          | 31                                      | 2100                                     |
|         | 68                  | 10X12.7          | F13          | 0.12                | 476          | 28                                      | 2700                                     |