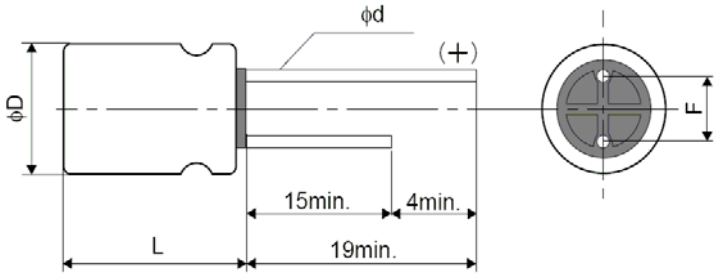
## Features

- Ultra low ESR level and excellent performance at high frequency through low profile.
- Ideal capacitor for digital and high frequency devices.
- High heat resistance and high reliability.

## Characteristics

| | | |
|---|---|---|
| **Voltage Range** | 2.5 ~50VDC | |
| **Capacitance Range** | 6.8uF ~ 1500uF | |
| **Temperature Range** | -55 ~ +105℃ | |
| **Capacitance Tolerance** | M:±20% , K:±10% (at 20℃ , 120Hz) | |
| **Leakage Current** | Capacitance(㎌) x Rated Voltage(Vdc) After 2minutes, see standard rating | |
| **Dissipation Factor ( tan δ ) 20℃ 120Hz** | See standard rating | |
| **ESR ( at 100K~300K Hz, 20℃ )** | See standard rating | |
| **Endurance** (Rated Voltage at 105℃ 2000 h, restored to 20℃) | Appearance | ≦No significant damage |
| | Capacitance Change (㎌) | Within ±20% of initial measured value |
| | Dissipation Factor (tan δ) | ≦150% of an initial specified value |
| | ESR (mΩ) | ≦150% of an initial specified value |
| | Leakage Current (㎂) | ≦Initial specified value |
| **Moisture Resistance** (Test at 60℃, 90~95RH for 1000hrs, L.C. should be tested after voltage treatment) | Capacitance Change (㎌) | Within ±20% of initial measured value |
| | Dissipation Factor (tan δ) | ≦150% of an initial specified value |
| | ESR (mΩ) | ≦150% of an initial specified value |
| | Leakage Current (㎂) | ≦Initial specified value |
| **Resistance to Soldering Heat** | Capacitance Change (㎌) | Within ±10% of initial measured value |
| | Dissipation Factor (tan δ) | ≦130% of an initial specified value |
| | ESR (mΩ) | ≦130% of an initial specified value |
| | Leakage Current (㎂) | ≦Initial specified value |
| **Low Temperature Characteristics** | Impedance Ratio (at 100kHz): $Z_{-25}/Z_{+20}$ : 1.15 , $Z_{-55}/Z_{+20}$ : 1.25 | |
| **Surge Voltage (V)** | Rated Voltage x 1.15 (at 105℃) | |




## Drawing

| | | | | | | |
|---|---|---|---|---|---|---|
| **ϕD** | 6.3 | | | 8.0 | 10 | |
| ***L*** | 5.5 | 6.5 | 11 | 12 | 10 | 12.5 |
| ***F*** | 2.5 | | | 3.5 | 5.0 | |
| ***ϕd*** | 0.45 | | 0.6 | | | |

## 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 | 1.0 |

## Dimensions, Maximum Ripple Current & Impedance

| W.V.(V) | Capacitance ($\mu$F) | Size $\phi$DxL(mm) | Tan $\delta$ (120Hz,200C) | L.C. ($\mu$A) | E.S.R. (100k-300kHz,m$\Omega$,2$^0$0C MAX) | Rated R.C 105$^0$C (mArms at 100kHz,) |
|---|---|---|---|---|---|---|
| 2.5(0E) | 220 | 6.3X5.5 | 0.12 | 110 | 28 | 2390 |
| | 390 | 6.3X11 | 0.12 | 195 | 18 | 3160 |
| | 680 | 8X12 | 0.18 | 340 | 10 | 5230 |
| | 1000 | 10X10 | 0.18 | 500 | 14 | 4700 |
| | 1500 | 10X12.5 | 0.18 | 750 | 8 | 5500 |
| 4(0G) | 150 | 6.3X5.5 | 0.12 | 120 | 40 | 1810 |
| | 270 | 6.3X11 | 0.12 | 216 | 15 | 3200 |
| | 560 | 8X12 | 0.18 | 448 | 10 | 5230 |
| | 1200 | 10X12.5 | 0.18 | 960 | 8 | 5500 |
| 6.3(0J) | 100 | 6.3X5.5 | 0.12 | 126 | 40 | 1810 |
| | 220 | 6.3X11 | 0.12 | 277 | 18 | 3160 |
| | 330 | 6.3X6.5 | 0.12 | 416 | 28 | 2390 |
| | 390 | 8X12 | 0.15 | 491 | 12 | 4770 |
| | 470 | 8X12 | 0.15 | 592 | 12 | 4770 |
| | 820 | 10X12.5 | 0.15 | 1033 | 10 | 5500 |
| 10(1A) | 100 | 6.3X6.5 | 0.12 | 200 | 45 | 1700 |
| | 220 | 10X10 | 0.15 | 440 | 17 | 3950 |
| | 330 | 8X12 | 0.12 | 660 | 14 | 4420 |
| | 560 | 10X12.5 | 0.12 | 1360 | 12 | 5300 |
| 16(1C) | 47 | 6.3X5.5 | 0.10 | 150 | 50 | 1650 |
| | 100 | 6.3X11 | 0.10 | 320 | 22 | 2820 |
| | 180 | 8X12 | 0.12 | 576 | 16 | 4360 |
| | 330 | 10X12.5 | 0.12 | 1056 | 16 | 4360 |
| 20(1D) | 22 | 6.3X5.5 | 0.10 | 88 | 60 | 1450 |
| | 56 | 6.3X11 | 0.10 | 224 | 25 | 2650 |
| | 100 | 8X12 | 0.15 | 400 | 24 | 3320 |
| | 100 | 10X10 | 0.15 | 400 | 24 | 3320 |
| | 150 | 10X12.5 | 0.15 | 600 | 20 | 4320 |
| 25V(1E) | 6.8 | 6.3X5.5 | 0.10 | 170 | 80 | 1200 |
| | 33 | 8X12 | 0.12 | 165 | 24 | 3320 |
| | 56 | 8X12 | 0.12 | 280 | 24 | 3320 |
| | | 10X12.5 | 0.12 | 280 | 20 | 4320 |
| | 68 | 8X12 | 0.12 | 340 | 24 | 3320 |
| | 100 | 10X12.5 | 0.12 | 500 | 20 | 4320 |
| 35V(1V) | 22 | 8X12 | 0.12 | 154 | 50 | 2300 |
| | 39 | 8X12 | 0.12 | 273 | 31 | 2100 |
| | 47 | 10X12.5 | 0.12 | 329 | 30 | 3650 |
| | 68 | 10X12.5 | 0.12 | 476 | 28 | 2700 |
| 50V(1H) | 27 | 8X12 | 0.12 | 270 | 36 | 2000 |
| | 47 | 10X12.5 | 0.12 | 470 | 31 | 2500 |