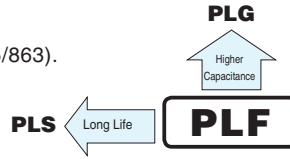


PLF Radial Lead Type, Standard



- Low ESR, High ripple current.
- Load life of 2000 hours at 105°C.
- Radial lead type :
Lead free flow soldering condition correspondence.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

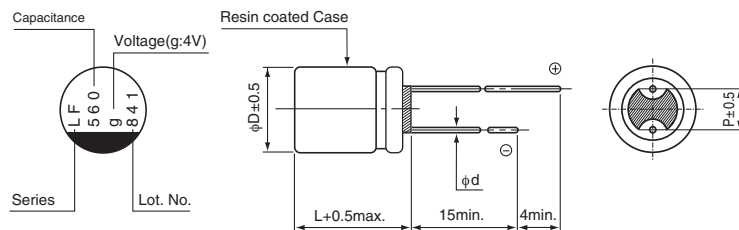


■ Specifications

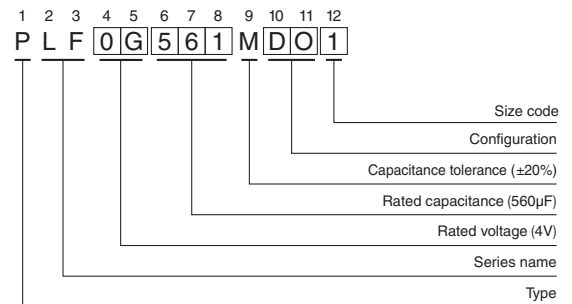
| Item | Performance Characteristics | | | | | | | | | |
|---|--|--|--------------------|---|-------|---|-----------|---|-----------------------|---|
| Category Temperature Range | -55 to +105°C | | | | | | | | | |
| Rated Voltage Range | 2.5 to 25V | | | | | | | | | |
| Rated Capacitance Range | 6.8 to 1500μF | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | |
| Tangent of loss angle (tan δ) | Less than or equal to the specified value at 120Hz, 20°C | | | | | | | | | |
| ESR (※ 1) | Less than or equal to the specified value at 100kHz, 20°C | | | | | | | | | |
| Leakage Current (※ 2) | Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20°C | | | | | | | | | |
| Temperature Characteristics (Max.Impedance Ratio) | $Z(+105^{\circ}\text{C}) / Z(+20^{\circ}\text{C}) \leq 1.25$ (100kHz) $Z(-55^{\circ}\text{C}) / Z(+20^{\circ}\text{C}) \leq 1.25$ | | | | | | | | | |
| Endurance | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 105°C. | <table border="1"> <tr><td>Capacitance change</td><td>Within ± 20% of the initial capacitance value (※ 3)</td></tr> <tr><td>tan δ</td><td>150% or less than the initial specified value</td></tr> <tr><td>ESR (※ 1)</td><td>150% or less than the initial specified value</td></tr> <tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table> | Capacitance change | Within ± 20% of the initial capacitance value (※ 3) | tan δ | 150% or less than the initial specified value | ESR (※ 1) | 150% or less than the initial specified value | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change | Within ± 20% of the initial capacitance value (※ 3) | | | | | | | | | |
| tan δ | 150% or less than the initial specified value | | | | | | | | | |
| ESR (※ 1) | 150% or less than the initial specified value | | | | | | | | | |
| Leakage current (※ 2) | Less than or equal to the initial specified value | | | | | | | | | |
| Damp Heat (Steady State) | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90% RH. | <table border="1"> <tr><td>Capacitance change</td><td>Within ± 20% of the initial capacitance value (※ 3)</td></tr> <tr><td>tan δ</td><td>150% or less than the initial specified value</td></tr> <tr><td>ESR (※ 1)</td><td>150% or less than the initial specified value</td></tr> <tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table> | Capacitance change | Within ± 20% of the initial capacitance value (※ 3) | tan δ | 150% or less than the initial specified value | ESR (※ 1) | 150% or less than the initial specified value | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change | Within ± 20% of the initial capacitance value (※ 3) | | | | | | | | | |
| tan δ | 150% or less than the initial specified value | | | | | | | | | |
| ESR (※ 1) | 150% or less than the initial specified value | | | | | | | | | |
| Leakage current (※ 2) | Less than or equal to the initial specified value | | | | | | | | | |
| Resistance to Soldering Heat | After soldering the capacitor under the soldering conditions prescribed here as preheat at 150 to 200°C for 60 to 180 seconds and peak temperature at 265°C for 10 seconds or less, the capacitor shall meet the specifications listed at right, provided that its temperature profile is measured at both of terminal ends facing the soldering side. | <table border="1"> <tr><td>Capacitance change</td><td>Within ± 10% of the initial capacitance value (※ 3)</td></tr> <tr><td>tan δ</td><td>130% or less than the initial specified value</td></tr> <tr><td>ESR (※ 1)</td><td>130% or less than the initial specified value</td></tr> <tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table> | Capacitance change | Within ± 10% of the initial capacitance value (※ 3) | tan δ | 130% or less than the initial specified value | ESR (※ 1) | 130% or less than the initial specified value | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change | Within ± 10% of the initial capacitance value (※ 3) | | | | | | | | | |
| tan δ | 130% or less than the initial specified value | | | | | | | | | |
| ESR (※ 1) | 130% or less than the initial specified value | | | | | | | | | |
| Leakage current (※ 2) | Less than or equal to the initial specified value | | | | | | | | | |
| Marking | Navy blue print on the case top | | | | | | | | | |

- ※ 1 ESR should be measured at both of the terminal ends closest to the capacitor body.
- ※ 2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.
- ※ 3 Initial value : The value before test of examination of resistance to soldering.

■ Dimensions



Type numbering system (Example : 4V 560μF)



| Size | φ6.3 × 6L | φ6.3 × 9L | φ6.3 × 10.5L | φ8 × 7L | φ8 × 9L | φ8 × 12L | φ10 × 8L | φ10 × 10L | φ10 × 13L |
|------|-----------|-----------|--------------|---------|---------|----------|----------|-----------|-----------|
| φD | 6.3 | 6.3 | 6.3 | 8.0 | 8.0 | 8.0 | 10.0 | 10.0 | 10.0 |
| L | 5.5 | 8.5 | 10.0 | 6.5 | 8.5 | 11.5 | 7.5 | 9.5 | 12.5 |
| P | 2.5 | 2.5 | 2.5 | 3.5 | 3.5 | 3.5 | 5.0 | 5.0 | 5.0 |
| φd | 0.45 | 0.6 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |

| V | 2.5 | 4 | 6.3 | 10 | 16 | 20 | 25 |
|------|-----|---|-----|----|----|----|----|
| Code | e | g | j | A | C | D | E |

● Frequency coefficient of rated ripple current

| Frequency | 120Hz | 1kHz | 10kHz | 100kHz or more |
|-------------|-------|------|-------|----------------|
| Coefficient | 0.05 | 0.30 | 0.70 | 1.00 |

Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

● Dimension table in next page.

PLF

■ Dimensions

| Rated Voltage (V) (code) | Surge Voltage (V) | Rated Capacitance (μF) | Case Size φD × L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | ESR (mΩ) (20°C/100kHz) | Rated Ripple (mArms) (105°C/100kHz) | Part Number |
|--------------------------|-------------------|------------------------|-----------------------|-------|--|------------------------|-------------------------------------|--------------|
| 2.5 (0E) | 2.8 | 330 | ○ 6.3 × 9 | 0.08 | 500 | 7 | 5600 | PLF0E331MCO8 |
| | | 390 | ■ 6.3 × 10.5 | 0.08 | 195 | 20 | 3200 | PLF0E391MDL4 |
| | | 560 | ○ 6.3 × 9 | 0.08 | 500 | 7 | 5600 | PLF0E561MCO8 |
| | | 560 | 8 × 9 | 0.08 | 280 | 6 | 4800 | PLF0E561MCO1 |
| | | 680 | ▲ 8 × 9 | 0.08 | 340 | 7 | 4800 | PLF0E681MCO6 |
| | | 680 | 8 × 12 | 0.08 | 340 | 6 | 5700 | PLF0E681MDO1 |
| | | 820 | ○ 6.3 × 9 | 0.08 | 500 | 7 | 5600 | PLF0E821MCO8 |
| | | 820 | ▲ 8 × 9 | 0.08 | 410 | 7 | 5200 | PLF0E821MCO6 |
| | | 820 | 8 × 12 | 0.08 | 410 | 6 | 6200 | PLF0E821MDO1 |
| | | 1000 | 10 × 13 | 0.08 | 500 | 6 | 6500 | PLF0E102MDO1 |
| | | 1200 | 10 × 13 | 0.08 | 600 | 8 | 5300 | PLF0E122MDO1 |
| | | 1500 | ▲ 8 × 12 | 0.08 | 750 | 7 | 6100 | PLF0E152MDO6 |
| 1500 | 10 × 13 | 0.08 | 750 | 8 | 5500 | PLF0E152MDO1 | | |
| 4 (0G) | 4.6 | 270 | ○ 6.3 × 9 | 0.08 | 500 | 7 | 5600 | PLF0G271MCO8 |
| | | 270 | ■ 6.3 × 10.5 | 0.08 | 216 | 20 | 3200 | PLF0G271MDL4 |
| | | 390 | ■ 6.3 × 10.5 | 0.08 | 312 | 24 | 3300 | PLF0G391MDL4 |
| | | 560 | ▲ 8 × 9 | 0.08 | 448 | 7 | 5200 | PLF0G561MCO6 |
| | | 560 | 8 × 12 | 0.08 | 448 | 7 | 5500 | PLF0G561MDO1 |
| | | 680 | 8 × 12 | 0.08 | 544 | 6 | 6200 | PLF0G681MDO1 |
| | | 820 | 10 × 13 | 0.08 | 656 | 6 | 6500 | PLF0G821MDO1 |
| | | 1000 | 10 × 13 | 0.08 | 800 | 6 | 6640 | PLF0G102MDO1 |
| | | 1200 | 10 × 13 | 0.08 | 960 | 8 | 5600 | PLF0G122MDO1 |
| 6.3 (0J) | 7.2 | 220 | ■ 6.3 × 10.5 | 0.08 | 277 | 20 | 3200 | PLF0J221MDL4 |
| | | 330 | ■ 6.3 × 10.5 | 0.08 | 416 | 24 | 3300 | PLF0J331MDL4 |
| | | 470 | ▲ 8 × 9 | 0.08 | 592 | 7 | 5200 | PLF0J471MCO6 |
| | | 470 | 8 × 12 | 0.08 | 592 | 7 | 5500 | PLF0J471MDO1 |
| | | 680 | 10 × 13 | 0.08 | 857 | 6 | 6300 | PLF0J681MDO1 |
| 10 (1A) | 11.5 | 47 | ■ 6.3 × 10.5 | 0.08 | 94 | 25 | 2900 | PLF1A470MDL4 |
| | | 68 | ■ 6.3 × 10.5 | 0.08 | 136 | 25 | 2900 | PLF1A680MDL4 |
| | | 100 | ■ 6.3 × 10.5 | 0.08 | 200 | 25 | 2900 | PLF1A101MDL4 |
| | | 150 | ■ 6.3 × 10.5 | 0.08 | 300 | 25 | 2900 | PLF1A151MDL4 |
| | | 270 | 8 × 12 | 0.08 | 540 | 8 | 4900 | PLF1A271MDO1 |
| | | 470 | 10 × 13 | 0.08 | 940 | 7 | 5700 | PLF1A471MDO1 |
| | | 560 | 10 × 13 | 0.08 | 1120 | 7 | 5900 | PLF1A561MDO1 |
| | | 680 | 10 × 13 | 0.08 | 1360 | 7 | 6100 | PLF1A681MDO1 |
| 16 (1C) | 18.4 | 100 | ■ 6.3 × 10.5 | 0.08 | 320 | 24 | 2900 | PLF1C101MDL4 |
| | | 180 | 8 × 12 | 0.08 | 576 | 9 | 5000 | PLF1C181MDO1 |
| | | 270 | 8 × 12 | 0.08 | 864 | 9 | 5100 | PLF1C271MDO1 |
| | | 330 | 10 × 13 | 0.08 | 1056 | 9 | 6100 | PLF1C331MDO1 |
| | | 470 | 10 × 13 | 0.08 | 1504 | 9 | 6100 | PLF1C471MDO1 |
| 20 (1D) | 23 | 22 | △ 6.3 × 6 | 0.12 | 88 | 50 | 1700 | PLF1D220MCL2 |
| | | 39 | △ 8 × 7 | 0.12 | 156 | 45 | 2000 | PLF1D390MCL2 |
| | | 47 | △ 8 × 7 | 0.12 | 188 | 45 | 2000 | PLF1D470MCL2 |
| | | 56 | △ 10 × 8 | 0.12 | 224 | 40 | 2400 | PLF1D560MCL2 |
| | | 68 | △ 10 × 8 | 0.12 | 272 | 40 | 2600 | PLF1D680MCL2 |
| | | 82 | △ 10 × 8 | 0.12 | 328 | 40 | 2600 | PLF1D820MCL2 |
| | | 100 | △ 8 × 12 | 0.12 | 400 | 22 | 3320 | PLF1D101MDO2 |
| | | 120 | △ 10 × 10 | 0.12 | 480 | 35 | 2800 | PLF1D121MCL2 |
| | | 150 | △ 10 × 13 | 0.12 | 600 | 20 | 4320 | PLF1D151MDO2 |
| 25 (1E) | 28.7 | 6.8 | △ 6.3 × 6 | 0.12 | 85 | 80 | 1200 | PLF1E6R8MCL2 |
| | | 10 | □ 6.3 × 6 | 0.12 | 125 | 65 | 1500 | PLF1E100MCL7 |
| | | 10 | △ 8 × 7 | 0.12 | 125 | 60 | 1500 | PLF1E100MCL2 |
| | | 22 | □ 8 × 7 | 0.12 | 275 | 50 | 1800 | PLF1E220MCL7 |
| | | 47 | △ 10 × 13 | 0.12 | 588 | 30 | 3000 | PLF1E470MDO2 |
| | | 56 | △ 10 × 13 | 0.12 | 700 | 28 | 3800 | PLF1E560MDO2 |

No marked, [1] will be put at 12th digit of type numbering system.
 △ : In this case, [2] will be put at 12th digit of type numbering system.
 ■ : In this case, [4] will be put at 12th digit of type numbering system.



▲ : In this case, [6] will be put at 12th digit of type numbering system.
 ○ : In this case, [7] will be put at 12th digit of type numbering system.
 ○ : In this case, [8] will be put at 12th digit of type numbering system.

• For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

CAT.8100M

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