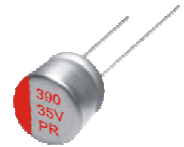


PR Radial Lead Type, Long Life Assurance Series

- High reliability, High voltage (to 50V).
- Low ESR, High ripple current.
- Long life of 3000 hours at 125°C.
- Radial lead type: lead free flow soldering condition correspondence.
- RoHS Compliance (2011/65/EU)



SPECIFICATIONS

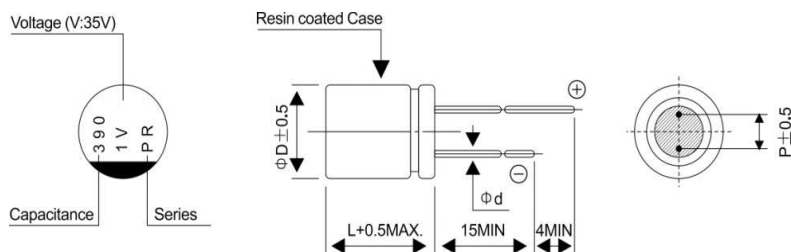
| Item | Performance Characteristics | | |
|--|--|---------------------|---|
| Category Temperature Range | -55 ~ +125°C | | |
| Rated Voltage Range | 16~ 50V | | |
| Rated Capacitance Range | 22 to 390μF | | |
| Capacitance Tolerance | ± 20 % (at 120Hz, 20°C) | | |
| Tangent of loss angle (tan δ) | 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°C / Z+20°C ≤ 1.25 (100kHz) Z- 55°C / Z+20°C ≤ 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 3000 hours at 125 °C | Capacitance change | Within ±20% of initial value(※3) |
| | | tan δ | 150% or less of the initial specified value |
| | | ESR(※1) | 150% or less of 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. | Capacitance change | Within ±20% of the initial value(※3) |
| | | tan δ | 150% or less of the initial specified value |
| | | ESR(※1) | 150% or less of 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. | 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 | Red print on the case top | | |

※1 ESR should be measured at both of the terminal ends closest to the capacitor body.

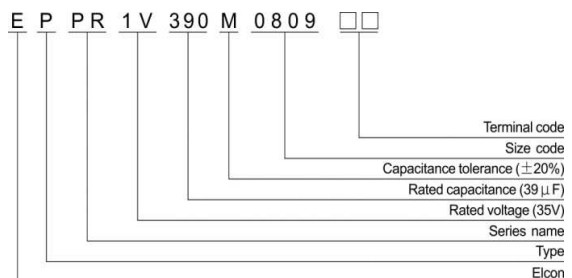
※2 Conditioning: If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105 °C

※3 Initial value: The value before test of examination of resistance to soldering.

Dimensions



Type numbering system(Exp: 35V 39μF)



Φ x L(mm)

| Size | 8x9 | 8x12 | 10x13 |
|------|-----|------|-------|
| ΦD | 8.0 | 8.0 | 10.0 |
| L | 8.5 | 11.5 | 12.5 |
| P | 3.5 | 3.5 | 5.0 |
| Φd | 0.6 | 0.6 | 0.6 |

Voltage

| V | 16 | 20 | 25 | 35 | 50 |
|------|----|----|----|----|----|
| Code | 1C | 1D | 1E | 1V | 1H |

PR

Series

■STANDARD RATINGS

| Rated voltage (V)(code) | Surge Voltage (V) | Rated Cpacity (μF) | Case Size ΦD x L(mm) | tan δ | Leakage Current (μA) | ESR(mΩ) (at 100kHz 20℃) | Rated Ripple (mArms) | | Part Number |
|----------------------------|----------------------|--------------------------|-------------------------|-------|----------------------------|-------------------------------|-------------------------|---------------|----------------|
| | | | | | | | ≤105℃(*3) | 105℃≤125℃(*3) | |
| 16 (1C) | 18.4 | 150 | 8x9 | 0.12 | 480 | 26 | 2100 | 810 | EPPR1C151M0809 |
| | | 220 | 8x12 | 0.12 | 704 | 25 | 2400 | 930 | EPPR1C221M0812 |
| | | 390 | 10x13 | 0.12 | 1248 | 23 | 2900 | 1130 | EPPR1C391M1013 |
| 20 (1D) | 23 | 120 | 8x9 | 0.12 | 480 | 27 | 2000 | 800 | EPPR1D121M0809 |
| | | 150 | 8x12 | 0.12 | 600 | 26 | 2300 | 910 | EPPR1D151M0812 |
| | | 270 | 10x13 | 0.12 | 1080 | 24 | 2800 | 1110 | EPPR1D271M1013 |
| 25 (1E) | 28.7 | 82 | 8x9 | 0.12 | 410 | 28 | 2000 | 780 | EPPR1E820M0809 |
| | | 120 | 8x12 | 0.12 | 600 | 27 | 2300 | 890 | EPPR1E121M0812 |
| | | 180 | 10x13 | 0.12 | 900 | 25 | 2800 | 1080 | EPPR1E181M1013 |
| 35 (1V) | 40.2 | 39 | 8x9 | 0.12 | 273 | 33 | 1800 | 720 | EPPR1V390M0809 |
| | | 56 | 8x12 | 0.12 | 392 | 31 | 2100 | 830 | EPPR1V560M0812 |
| | | 100 | 10x13 | 0.12 | 700 | 28 | 2700 | 1040 | EPPR1V101M1013 |
| 50 (1H) | 57.5 | 22 | 8x9 | 0.12 | 220 | 35 | 1800 | 700 | EPPR1H220M0809 |
| | | 27 | 8x12 | 0.12 | 270 | 33 | 2000 | 810 | EPPR1H270M0812 |
| | | 47 | 10x13 | 0.12 | 470 | 29 | 2600 | 1020 | EPPR1H470M1013 |