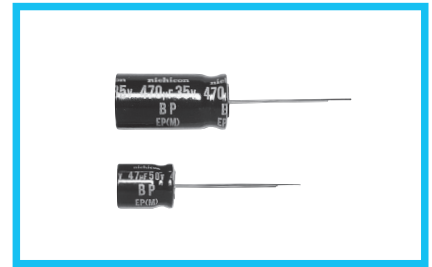
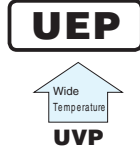


UEP

Bi-Polarized, Wide Temperature Range



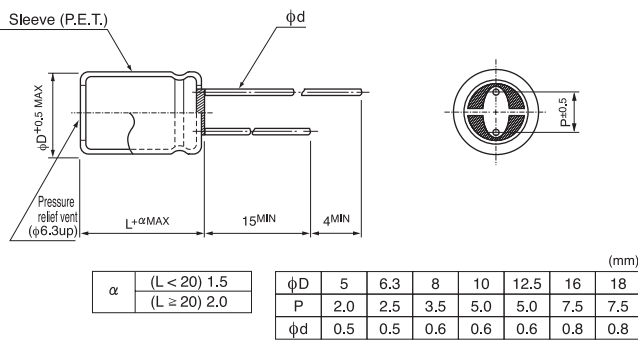
- Bi-polarized series for operations over wide temperature range of -55°C to +105°C.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

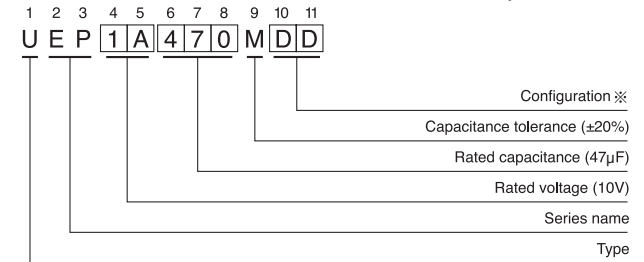
| Item | Performance Characteristics | | | | | | | | | | | | | | | | |
|-------------------------------|---|-----------------|------|------|------|---|------|------|------|--------------------|---|-------|---|-----------------|---|--|---|
| Category Temperature Range | -55 to +105°C | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 100V | | | | | | | | | | | | | | | | |
| Rated Capacitance Range | 1 to 6800μF | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | | | | | | |
| Leakage Current | After 5 minutes' application of rated voltage at 20°C, leakage current is not more than 0.03CV or 3 (μA), whichever is greater. | | | | | | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz, Temperature : 20°C | | | | | | | | | | | | | | | | |
| | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | |
| | tan δ (MAX.) | 0.24 | 0.24 | 0.20 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | | | | | | | | |
| Stability at Low Temperature | Measurement frequency : 120Hz | | | | | | | | | | | | | | | | |
| | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | |
| | Impedance ratio Z-25°C / Z+20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| | ZT / Z20 (MAX.) | Z-40°C / Z+20°C | 10 | 8 | 6 | 4 | 3 | 3 | 3 | | | | | | | | |
| Endurance | 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 105°C with the polarity inverted every 250 hours. | | | | | <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±25% of the initial capacitance value (6.3to16V)</td> </tr> <tr> <td>tan δ</td> <td>Within ±20% of the initial capacitance value (25to100V)</td> </tr> <tr> <td>Leakage current</td> <td>150% or less than the initial specified value</td> </tr> <tr> <td></td> <td>Less than or equal to the initial specified value</td> </tr> </table> | | | | Capacitance change | Within ±25% of the initial capacitance value (6.3to16V) | tan δ | Within ±20% of the initial capacitance value (25to100V) | Leakage current | 150% or less than the initial specified value | | Less than or equal to the initial specified value |
| Capacitance change | Within ±25% of the initial capacitance value (6.3to16V) | | | | | | | | | | | | | | | | |
| tan δ | Within ±20% of the initial capacitance value (25to100V) | | | | | | | | | | | | | | | | |
| Leakage current | 150% or less than the initial specified value | | | | | | | | | | | | | | | | |
| | Less than or equal to the initial specified value | | | | | | | | | | | | | | | | |
| Shelf Life | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. | | | | | | | | | | | | | | | | |
| Marking | Printed with white color letter on black sleeve. | | | | | | | | | | | | | | | | |

Radial Lead Type



• Please refer to page 20 about the end seal configuration.

Type numbering system (Example : 10V 47μF)



※ Configuration

| φ D | Pb-free leadwire Pb-free PET sleeve |
|------------|--|
| 5 | DD |
| 6.3 | ED |
| 8 · 10 | PD |
| 12.5 to 18 | HD |

Dimensions

| Cap. (μF) | V | Code | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 100 | | | | |
|-----------|-----|-----------|------|-----------|------|-----------|------|-----------|------|-----------|-----|-----------|-----|-----------|-----|-----------|-----|----------|----|----------|----|
| | | | OJ | | 1A | | 1C | | 1E | | 1V | | 1H | | 1J | | 2A | | | | |
| 1 | 010 | | | | | | | | | | | | | 5 × 11 | 12 | | | 5 × 11 | 15 | | |
| 2.2 | 2R2 | | | | | | | | | | | | | 5 × 11 | 18 | | | 6.3 × 11 | 20 | | |
| 3.3 | 3R3 | | | | | | | | | | | | | 5 × 11 | 22 | 5 × 11 | 20 | 6.3 × 11 | 25 | | |
| 4.7 | 4R7 | | | | | | | | | | | | | 5 × 11 | 25 | 5 × 11 | 22 | 6.3 × 11 | 31 | 6.3 × 11 | 30 |
| 10 | 100 | | | | | | | 5 × 11 | 30 | 5 × 11 | 34 | 5 × 11 | 30 | 6.3 × 11 | 37 | 6.3 × 11 | 40 | 8 × 11.5 | 50 | | |
| 22 | 220 | | | 5 × 11 | 42 | 5 × 11 | 40 | 6.3 × 11 | 55 | 6.3 × 11 | 51 | 8 × 11.5 | 63 | 8 × 11.5 | 68 | 10 × 16 | 97 | | | | |
| 33 | 330 | 5 × 11 | 46 | 5 × 11 | 45 | 5 × 11 | 49 | 6.3 × 11 | 56 | 8 × 11.5 | 72 | 8 × 11.5 | 77 | 10 × 12.5 | 98 | 12.5 × 20 | 140 | | | | |
| 47 | 470 | 5 × 11 | 54 | 5 × 11 | 54 | 6.3 × 11 | 67 | 6.3 × 11 | 67 | 8 × 11.5 | 86 | 10 × 12.5 | 105 | 10 × 16 | 130 | 12.5 × 20 | 170 | | | | |
| 100 | 101 | 6.3 × 11 | 90 | 6.3 × 11 | 90 | 8 × 11.5 | 110 | 8 × 11.5 | 110 | 10 × 16 | 160 | 10 × 20 | 190 | 12.5 × 20 | 225 | 16 × 25 | 300 | | | | |
| 220 | 221 | 8 × 11.5 | 150 | 8 × 11.5 | 150 | 10 × 12.5 | 195 | 10 × 16 | 215 | 12.5 × 20 | 290 | 12.5 × 25 | 340 | 16 × 25 | 405 | 18 × 35.5 | 510 | | | | |
| 330 | 331 | 8 × 11.5 | 185 | 10 × 16 | 240 | 10 × 16 | 265 | 12.5 × 20 | 320 | 12.5 × 20 | 350 | 16 × 25 | 460 | 16 × 31.5 | 535 | | | | | | |
| 470 | 471 | 10 × 12.5 | 260 | 10 × 16 | 290 | 10 × 20 | 345 | 12.5 × 20 | 380 | 12.5 × 25 | 465 | 16 × 31.5 | 590 | 18 × 35.5 | 680 | | | | | | |
| 1000 | 102 | 10 × 20 | 460 | 12.5 × 20 | 510 | 12.5 × 25 | 605 | 16 × 25 | 670 | 16 × 31.5 | 805 | | | | | | | | | | |
| 2200 | 222 | 12.5 × 25 | 820 | 16 × 25 | 910 | 16 × 31.5 | 1070 | 18 × 35.5 | 1140 | | | | | | | | | | | | |
| 3300 | 332 | 16 × 25 | 1110 | 16 × 31.5 | 1200 | 18 × 35.5 | 1400 | | | | | | | | | | | | | | |
| 4700 | 472 | 16 × 31.5 | 1430 | 18 × 35.5 | 1520 | | | | | | | | | | | | | | | | |
| 6800 | 682 | 18 × 35.5 | 1830 | | | | | | | | | | | | | | | | | | |

Rated ripple current (mArms) at 105°C 120Hz

Frequency coefficient of rated ripple current

| Cap. (μF) | Frequency | 50 Hz | 120Hz | 300 Hz | 1 kHz | 10 kHz or more |
|--------------|-----------|-------|-------|--------|-------|----------------|
| 1 to 47 | | 0.75 | 1.00 | 1.35 | 1.57 | 2.00 |
| 100 to 470 | | 0.80 | 1.00 | 1.23 | 1.34 | 1.50 |
| 1000 to 6800 | | 0.85 | 1.00 | 1.10 | 1.13 | 1.15 |

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.