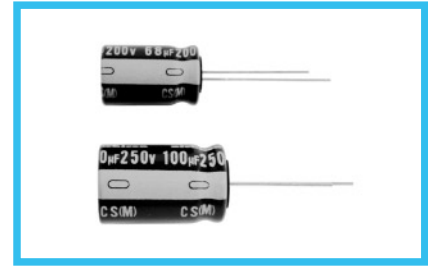
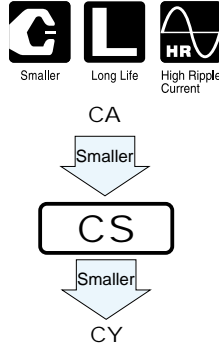


CS series Miniature Sized, High Ripple Current, High Reliability

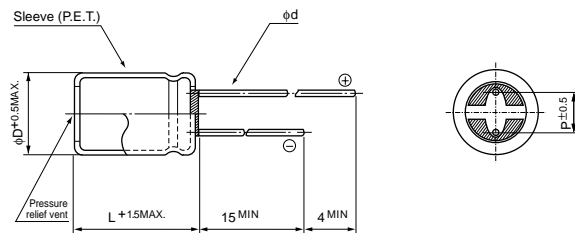


- High ripple current and Long Life product withstanding load life of 8000 to 10000 hours at +105°C.
- Suited for ballast application.
- Compliant to the RoHS directive (2002/95/EC).

Specifications

| Item | Performance Characteristics | | | | | | | | | | | | | |
|-------------------------------|--|---|----------------------|----------------------|----------------------|----------------------|----------------------|-----|--------------|------|------|------|------|------|
| Category Temperature Range | -40 to +105°C (160 to 400V) , -25 to +105°C (450V) | | | | | | | | | | | | | |
| Rated Voltage Range | 160 to 450V | | | | | | | | | | | | | |
| Rated Capacitance Range | 6.8 to 330µF | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | | | |
| Leakage Current | After 1 minute's application of rated voltage, leakage current is not more than 0.04CV+100 (µA) | | | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz, Temperature : 20°C | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tan δ (MAX.)</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </tbody> </table> | Rated voltage (V) | 160 | 200 | 250 | 350 | 400 | 450 | tan δ (MAX.) | 0.20 | 0.20 | 0.20 | 0.24 | 0.24 |
| Rated voltage (V) | 160 | 200 | 250 | 350 | 400 | 450 | | | | | | | | |
| tan δ (MAX.) | 0.20 | 0.20 | 0.20 | 0.24 | 0.24 | 0.24 | | | | | | | | |
| Stability at Low Temperature | Measurement frequency : 120Hz | | | | | | | | | | | | | |
| | Rated voltage (V) | 160 | 200 | 250 | 350 | 400 | 450 | | | | | | | |
| | Impedance ratio ZT / Z20 (MAX.) | Z-25°C / Z+20°C 3 | Z-25°C / Z+20°C 3 | Z-25°C / Z+20°C 3 | Z-25°C / Z+20°C 5 | Z-25°C / Z+20°C 5 | Z-25°C / Z+20°C 6 | | | | | | | |
| Endurance | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 10000 hours (8000 hours for φD=10) at 105°C, the peak voltage shall not exceed the rated voltage. | | | | | | | | | | | | | |
| | Capacitance change | Within ±20% of the initial capacitance value | | | | | | | | | | | | |
| | tan δ | 200% or less than 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. | | | | | | | | | | | | | |
| | Leakage current | Less than or equal to the initial specified value | | | | | | | | | | | | |
| Marking | Printed with white color letter on dark brown sleeve. | | | | | | | | | | | | | |

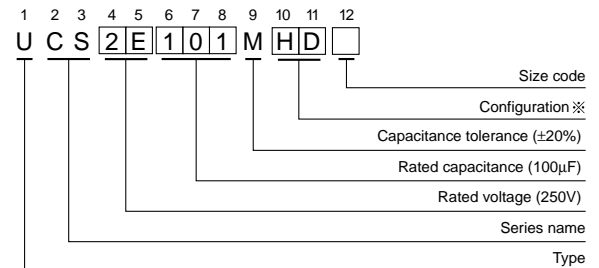
Radial Lead Type



| | (mm) | | | |
|----|------|------|-----|-----|
| φD | 10 | 12.5 | 16 | 18 |
| P | 5.0 | 5.0 | 7.5 | 7.5 |
| φd | 0.6 | 0.6 | 0.8 | 0.8 |

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

Type numbering system (Example : 250V 100µF)



※ Configuration

| | |
|------------|--|
| φ D | Pb-free leadwire Pb-free PET sleeve |
| 10 | PD |
| 12.5 to 18 | HD |

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

- Dimension table in next page.



■ Dimensions

| Cap | Code | V | | | | | | | | | | | |
|-----|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|--------------------------|------|
| | | 160 | | 200 | | 250 | | 350 | | 400 | | 450 | |
| | | 2C | | 2D | | 2E | | 2V | | 2G | | 2W | |
| 6.8 | 6R8 | | | | | | | 10 × 16 | 280 | 10 × 16 | 280 | 10 × 20 | 280 |
| 10 | 100 | 10 × 16 | 320 | 10 × 16 | 320 | 10 × 20 | 350 | 10 × 20 | 350 | 10 × 20 | 350 | 12.5 × 20 | 450 |
| 15 | 150 | | | | | | | | | 12.5 × 20 | 550 | 12.5 × 25 | 600 |
| 22 | 220 | 10 × 20 | 500 | 10 × 20 | 500 | 10 × 20 | 500 | 12.5 × 20 | 650 | 12.5 × 20 | 760 | 16 × 20 | 730 |
| 33 | 330 | 10 × 20 | 650 | 10 × 20 | 650 | 12.5 × 20 | 800 | 16 × 20 | 900 | 16 × 20 | 900 | 16 × 25 | 980 |
| | | | | | | | | | | | | ▲ 18 × 20 | 980 |
| 47 | 470 | 10 × 20 | 750 | 12.5 × 20 | 980 | 12.5 × 20 | 980 | 16 × 20 | 1080 | 16 × 25 | 1180 | 18 × 25 | 1200 |
| | | | | | | | | | | ▲ 18 × 20 | 1180 | | |
| 68 | 680 | 12.5 × 20 | 1180 | 12.5 × 20 | 1300 | 16 × 20 | 1300 | 16 × 25 | 1400 | 18 × 25 | 1470 | 18 × 31.5 | 1575 |
| | | | | | | | | ▲ 18 × 20 | 1375 | | | | |
| 82 | 820 | 12.5 × 20 | 1275 | 16 × 20 | 1380 | 16 × 20 | 1380 | 18 × 25 | 1530 | 18 × 25 | 1525 | | |
| 100 | 101 | 12.5 × 25 | 1420 | 16 × 20 | 1420 | 16 × 25 | 1530 | 18 × 25 | 1575 | | | | |
| | | ▲ 16 × 20 | 1420 | | | | | | | | | | |
| 150 | 151 | 16 × 20 | 1890 | 16 × 25 | 1890 | 18 × 25 | 1940 | | | | | | |
| 220 | 221 | 16 × 25 | 2370 | 18 × 25 | 2365 | 18 × 31.5 | 3130 | | | | | | |
| 330 | 331 | 18 × 31.5 | 3130 | 18 × 35.5 | 3220 | | | | | | | | |
| | | | | | | | | | | | | Case size φD × L (mm) | ※ |

※: Rated ripple current (mA_{rms}) at 105°C 100kHz

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

• Frequency coefficient of rated ripple current

| Frequency | 50Hz | 120Hz | 1kHz | 10kHz | 100kHz or more |
|-------------|------|-------|------|-------|----------------|
| Coefficient | 0.40 | 0.50 | 0.80 | 0.90 | 1.00 |