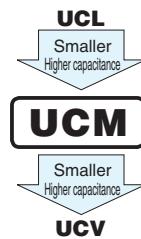


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Chip Type, Low Impedance



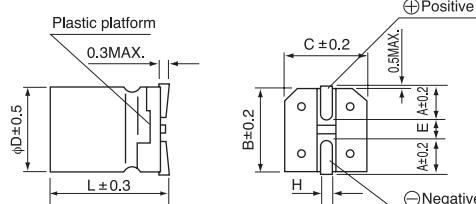
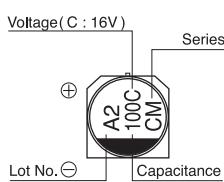
- Chip type, low impedance temperature range up to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).
- AEC-Q200 compliant. Please contact us for details.

**■ Specifications**

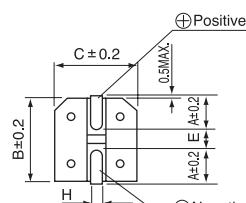
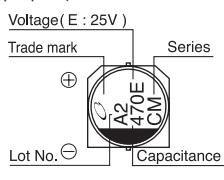
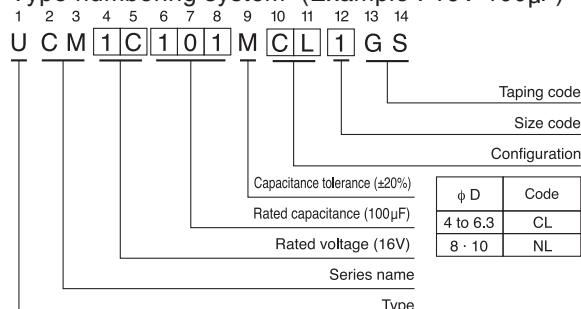
| Item | Performance Characteristics | | | | | | | | | | | |
|-------------------------------|---|---|------|------|------|------|---------------------------------------|-------------------------------|--|--|--|--|
| Category Temperature Range | -55 to +105°C | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 50V | | | | | | | | | | | |
| Rated Capacitance Range | 10 to 2200μF | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | |
| Leakage Current | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV (μA). | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | | | | | | |
| | tan δ (MAX.) | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 | | | | | | |
| | | | | | | | Measurement frequency : 120Hz at 20°C | | | | | |
| Stability at Low Temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | Measurement frequency : 120Hz | | | | |
| | Impedance ratio ZT / Z20 (MAX.) | Z-25°C / Z+20°C | 2 | 2 | 2 | 2 | 2 | | | | | |
| | | Z-40°C / Z+20°C | 3 | 3 | 3 | 3 | 3 | | | | | |
| | | Z-55°C / Z+20°C | 4 | 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 2000 hours at 105°C. | | | | | | | | | | | |
| | Capacitance change | Within ±30% of the initial capacitance value | | | | | | | | | | |
| | tan δ | 200% or less than the initial specified value | | | | | | | | | | |
| | Leakage current | 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. | | | | | | | | | | | |
| Resistance to soldering heat | The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C. | | | | | | | | | | | |
| | Capacitance change | Within ±10% of the initial capacitance value | | | | | | | | | | |
| | tan δ | Less than or equal to the initial specified value | | | | | | | | | | |
| | Leakage current | Less than or equal to the initial specified value | | | | | | | | | | |
| Marking | Black print on the case top. | | | | | | | | | | | |

■ Chip Type

(φ4 to φ6.3)



(φ8,φ10)

**Type numbering system (Example : 16V 100μF)**

| φD×L | 4×5.8 | 5×5.8 | 6.3×5.8 | 6.3×7.7 | 8×10 | 10×10 |
|------|------------|------------|------------|------------|------------|------------|
| A | 1.8 | 2.1 | 2.4 | 2.4 | 2.9 | 3.2 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 |
| E | 1.0 | 1.3 | 2.2 | 2.2 | 3.1 | 4.5 |
| L | 5.8 | 5.8 | 5.8 | 7.7 | 10 | 10 |
| H | 0.5 to 0.8 | 0.5 to 0.8 | 0.5 to 0.8 | 0.5 to 0.8 | 0.8 to 1.1 | 0.8 to 1.1 |

Voltage

| | | | | | | |
|------|-----|----|----|----|----|----|
| V | 6.3 | 10 | 16 | 25 | 35 | 50 |
| Code | j | A | C | E | V | H |

● Dimension table in next page.

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■ Dimensions

| Cap. (μF) | V Code | 6.3 | 10 | 16 | 25 | 35 | 50 |
|--------------|-----------|------------------|------------------|------------------|------------------|------------------|--|
| | | 0J | 1A | 1C | 1E | 1V | 1H |
| 10 | 100 | | | | | | ● 4 5.8 2.30 85 5 5.8 0.88 165 |
| 22 | 220 | | | | 4 5.8 1.00 160 | 4 5.8 1.00 160 | 5 5.8 0.88 165 |
| 33 | 330 | | | | 4 5.8 1.00 160 | 5 5.8 0.36 240 | |
| 47 | 470 | | | 4 5.8 1.00 160 | 5 5.8 0.36 240 | 5 5.8 0.36 240 | 6.3 5.8 0.68 195 |
| 68 | 680 | | 4 5.8 1.00 160 | 5 5.8 0.36 240 | 5 5.8 0.36 240 | 6.3 5.8 0.26 300 | |
| 100 | 101 | 4 5.8 1.00 160 | | 5 5.8 0.36 240 | 6.3 5.8 0.26 300 | 6.3 5.8 0.26 300 | 6.3 7.7 0.34 350 |
| 150 | 151 | | 5 5.8 0.36 240 | 6.3 5.8 0.26 300 | 6.3 7.7 0.16 600 | 6.3 7.7 0.16 600 | |
| 220 | 221 | 5 5.8 0.36 240 | 6.3 5.8 0.26 300 | 6.3 5.8 0.26 300 | 6.3 7.7 0.16 600 | | 8 10 0.18 670 |
| 330 | 331 | 6.3 5.8 0.26 300 | 6.3 7.7 0.16 600 | 6.3 7.7 0.16 600 | | 8 10 0.08 850 | 10 10 0.12 900 |
| 470 | 471 | 6.3 7.7 0.16 600 | 6.3 7.7 0.16 600 | | 8 10 0.08 850 | | |
| 560 | 561 | | | | | 10 10 0.06 1190 | |
| 680 | 681 | 6.3 7.7 0.16 600 | | 8 10 0.08 850 | | | |
| 820 | 821 | | | | 10 10 0.06 1190 | | |
| 1000 | 102 | | 8 10 0.08 850 | 10 10 0.06 1190 | | | |
| 1500 | 152 | 8 10 0.08 850 | 10 10 0.06 1190 | | | | Case size ΦD×L (mm) Impedance Rated ripple |
| 2200 | 222 | 10 10 0.06 1190 | | | | | |

MAX. Impedance (Ω) at 20°C 100kHz, Rated ripple current(mArms) at 105°C 100kHz

● In this case, [6] will be put at 12th digit of type numbering system.

● Frequency coefficient of rated ripple current

| Frequency | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
|-------------|-------|--------|--------|-------|----------------|
| Coefficient | 0.35 | 0.50 | 0.64 | 0.83 | 1.00 |

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.