

nichicon

Wide Temperature Range, Permissible
Abnormal Voltage
(Radial Lead Type) series

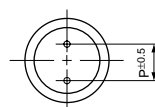
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|---------------------------------|---|--|--------------------|--|---------------------------------|---|-----------------|---|-----------------|---|----|-------------------------------|--|
| Item | Performance Characteristics | | | | | | | | | | | | |
| Category Temperature Range | -40 to +105°C | | | | | | | | | | | | |
| Rated Voltage Range | 200 · 400V | | | | | | | | | | | | |
| Rated Capacitance Range | 10 to 220μF | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | | | | | |
| Leakage Current | After 1 minute's application of rated voltage, leakage current is 0.04CV+100 (μA) or less. | | | | | | | | | | | | |
| Tangent of loss angle (tan δ) | <table border="1"> <tr> <td>Rated voltage (V)</td><td>200</td><td>400</td></tr> <tr> <td>tan δ (MAX.)</td><td>0.15</td><td>0.15</td></tr> </table> | Rated voltage (V) | 200 | 400 | tan δ (MAX.) | 0.15 | 0.15 | Measurement frequency:120Hz, Temperature:20°C | | | | | |
| Rated voltage (V) | 200 | 400 | | | | | | | | | | | |
| tan δ (MAX.) | 0.15 | 0.15 | | | | | | | | | | | |
| Stability at Low Temperature | <table border="1"> <tr> <td>Rated voltage (V)</td><td>200</td><td>400</td></tr> <tr> <td rowspan="2">Impedance ratio ZT / Z20 (MAX.)</td><td>Z-25°C / Z+20°C</td><td>3</td><td>8</td></tr> <tr> <td>Z-40°C / Z+20°C</td><td>6</td><td>10</td></tr> </table> | Rated voltage (V) | 200 | 400 | Impedance ratio ZT / Z20 (MAX.) | Z-25°C / Z+20°C | 3 | 8 | Z-40°C / Z+20°C | 6 | 10 | Measurement frequency : 120Hz | |
| Rated voltage (V) | 200 | 400 | | | | | | | | | | | |
| Impedance ratio ZT / Z20 (MAX.) | Z-25°C / Z+20°C | 3 | 8 | | | | | | | | | | |
| | Z-40°C / Z+20°C | 6 | 10 | | | | | | | | | | |
| 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 2000 hours at 105°C, the peak voltage shall not exceed the rated voltage. | <table border="1"> <tr> <td>Capacitance change</td><td>Within ±20% of the initial capacitance value</td></tr> <tr> <td>tan δ</td><td>200% or less than the initial specified value</td></tr> <tr> <td>Leakage current</td><td>Less than or equal to the initial specified value</td></tr> </table> | Capacitance change | Within ±20% 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 | | | | | |
| Capacitance change | Within ±20% 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. | | | | | | | | | | | | |
| Safety Performance | The pressure relief vent will operate in normal conditions, with no dangerous conditions such as flames, ignitions or dispersion of pieces of the capacitor and / or case. | | | | | | | | | | | | |
| | voltage (V) | Test conditions | | | | | | | | | | | |
| | | Limited DC current | Test Voltage | | | | | | | | | | |
| | | 200 | 300VDC and 375VDC | | | | | | | | | | |
| Marking | Printed with white color letter on dark brown sleeve. | | | | | | | | | | | | |
| | 400 | 2A | 500VDC and 600VDC | | | | | | | | | | |

Technical drawing of the sleeve assembly. The drawing shows a cross-section of the sleeve (P.E.T.) with a pressure relief vent. The outer diameter is labeled ϕd . The inner diameter is labeled $\phi D^* \pm \beta \text{ MAX.}$. The length of the sleeve is labeled $L^* + \alpha \text{ MAX.}$. The distance from the end of the sleeve to the pressure relief vent is labeled 15 MIN . The distance from the pressure relief vent to the end of the sleeve is labeled 4 MIN . The pressure relief vent is labeled "Pressure relief vent". The sleeve is labeled "Sleeve (P.E.T.)".

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

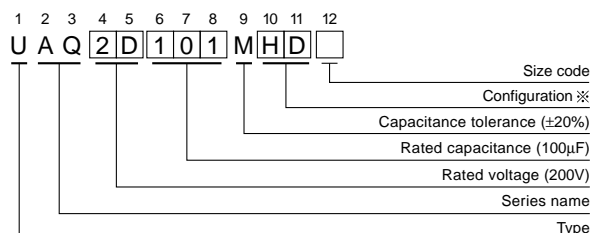


| | (mm) | | | | |
|----|------|-------------------|-----|-----|-----|
| ΦD | 10 | 12.5 | 16 | 18 | 22 |
| β | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 |
| P | 5.0 | 5.0 | 7.5 | 7.5 | 10 |
| φd | 0.6 | 0.6 ³² | 0.8 | 0.8 | 1.0 |

※ In case $L > 25$ for $\phi 12.5$ (D) case sizes,
lead diameter $\phi 0.8$ (d) will be applied.

| | |
|----------|------------------------|
| α | $(\phi D \leq 18)$ 2.0 |
| | $(\phi D > 18)$ 3.0 |

Type numbering system (Example : 200V 100 μ F)



※ Configuration

| ϕ D | Pb-free leadwire Pb-free PET sleeve |
|------------|--|
| 10 | PD |
| 12.5 to 18 | HD |
| 22 | RD |

| V(Code) | | 200 (2D) | | | | | 400 (2G) | | | |
|----------|------|------------------|--------------------|------------------|-------------------|------------------|--------------------|------------------|-------------------|-------------------------------------|
| Cap.(µF) | Code | φ10 | φ12.5 | φ16 | φ18 | φ22 | φ12.5 | φ16 | φ18 | φ22 |
| 10 | 100 | | | | | | 12.5 × 20 100 | | | |
| 22 | 220 | 10 × 20 120 | | | | | 12.5 × 31.5 145 | φ16 × 20 145 | | |
| 33 | 330 | 10 × 25 160 | φ12.5 × 20 160 | | | | 12.5 × 40 195 | φ16 × 25 195 | * 18 × 20 195 | |
| 47 | 470 | 10 × 31.5 195 | φ12.5 × 20 195 | | | | | 16 × 35.5 280 | φ18 × 25 280 | * 22 × 20 280 |
| 56 | 560 | | 12.5 × 25 210 | | | | | 16 × 35.5 320 | φ18 × 31.5 320 | * 22 × 25 320 |
| 68 | 680 | | 12.5 × 25 250 | | | | | 16 × 40 350 | φ18 × 35.5 350 | |
| 82 | 820 | | 12.5 × 31.5 285 | φ16 × 20 285 | | | | | 18 × 40 420 | |
| 100 | 101 | | 12.5 × 35.5 335 | φ16 × 25 335 | * 18 × 20 335 | | | | | |
| 150 | 151 | | | 16 × 31.5 435 | φ18 × 25 435 | * 22 × 20 435 | | | | |
| 180 | 181 | | | 16 × 35.5 495 | φ18 × 31.5 495 | * 22 × 25 495 | | | | |
| 220 | 221 | | | | 18 × 35.5 575 | | | | | Case size φD×L (mm) Rated ripple |

| | | |
|--|--|--------------|
| | | Rated ripple |
| Rated ripple current (mA rms) at 105°C 120Hz | | |

- : In case of low profile type, [6] will be put at 12th digit of type numbering system.
※ : For further low profile product, [3] will be put at 12th digit.

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

●Frequency coefficient of rated ripple current

| | | | | | |
|-------------|----------|-------|-------|------|---------------|
| Frequency | 50, 60Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
| Coefficient | 0.80 | 1.00 | 1.25 | 1.40 | 1.60 |

CAT.8100Z