

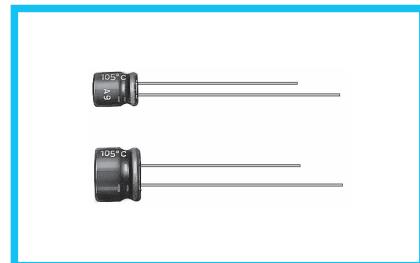
UMF

5mmL, Low Impedance

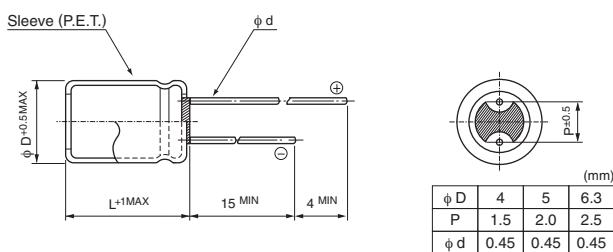


- Low impedance over wide temperature range of -55 to $+105^{\circ}\text{C}$, with 5mm height.
- Suited for DC-DC converters where smaller case size and lower impedance are required.
- Compliant to the RoHS directive (2011/65/EU, EU 2015/863).

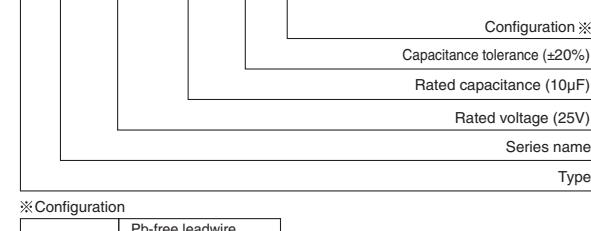
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**■ Specifications**

| Item | Performance Characteristics | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------|------|------|------|--|--------------------|--|---------------|---|-----------------|---|------------------------|---|------|------|------|------|---|---|---|---|---|---|
| Category Temperature Range | -55 to $+105^{\circ}\text{C}$ | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 6.3 to 35V | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Capacitance Range | 1 to $100\mu\text{F}$ | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Capacitance Tolerance | $\pm 20\%$ at 120Hz , 20°C | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | After 2 minutes' application of rated voltage at 20°C , leakage current is not more than 0.01CV or $3 (\mu\text{A})$, whichever is greater. | | | | | | | | | | | | | | | | | | | | | | | |
| Tangent of loss angle ($\tan \delta$) | <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>$\tan \delta$ (MAX.)</td> <td>0.22</td> <td>0.20</td> <td>0.18</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table> | | | | | | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | $\tan \delta$ (MAX.) | 0.22 | 0.20 | 0.18 | 0.14 | 0.12 | | | | | | |
| Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | | | | | | | | | | | | | | | | | | | |
| $\tan \delta$ (MAX.) | 0.22 | 0.20 | 0.18 | 0.14 | 0.12 | | | | | | | | | | | | | | | | | | | |
| Stability at Low Temperature | <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>Impedance ratio (MAX.)</td> <td>$Z-25^{\circ}\text{C} / Z+20^{\circ}\text{C}$</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>$Z-55^{\circ}\text{C} / Z+20^{\circ}\text{C}$</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> | | | | | | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | Impedance ratio (MAX.) | $Z-25^{\circ}\text{C} / Z+20^{\circ}\text{C}$ | 2 | 2 | 2 | 2 | $Z-55^{\circ}\text{C} / Z+20^{\circ}\text{C}$ | 4 | 4 | 3 | 3 | 3 |
| Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | | | | | | | | | | | | | | | | | | | |
| Impedance ratio (MAX.) | $Z-25^{\circ}\text{C} / Z+20^{\circ}\text{C}$ | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | |
| $Z-55^{\circ}\text{C} / Z+20^{\circ}\text{C}$ | 4 | 4 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | |
| Endurance | <p>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.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within $\pm 20\%$ of the initial capacitance value</td> </tr> <tr> <td>$\tan \delta$</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 $\pm 20\%$ of the initial capacitance value | $\tan \delta$ | 200% or less than the initial specified value | Leakage current | Less than or equal to the initial specified value | | | | | | | | | | | | |
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| $\tan \delta$ | 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. | | | | | | | | | | | | | | | | | | | | | | | |
| Marking | Printed with white color letter on dark brown sleeve. | | | | | | | | | | | | | | | | | | | | | | | |

■ Radial Lead Type**Type numbering system (Example : 25V 10μF)**

1 2 3 4 5 6 7 8 9 10 11
U M F | E | 1 0 0 M D D

**● 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 |

● Dimension table in next page.

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■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μ F) | Case Size ϕ D×L(mm) | $\tan \delta$ | Leakage Current (μ A) (at 20°C after 2 minutes) | Impedance (Ω) MAX. (20°C/100kHz) | Rated Ripple (mArms) (105°C/100kHz) | Part Number |
|--------------------------------|------------------------------------|-----------------------------|---------------|---|---|---|-------------|
| 6.3 (0J) | 22 | 4×5 | 0.22 | 3 | 5.0 | 50 | UMF0J220MDD |
| | 33 | 5×5 | 0.22 | 3 | 2.6 | 80 | UMF0J330MDD |
| | 47 | 5×5 | 0.22 | 3 | 2.6 | 80 | UMF0J470MDD |
| | 68 | 6.3×5 | 0.22 | 4.284 | 1.3 | 115 | UMF0J680MDD |
| | 100 | 6.3×5 | 0.22 | 6.3 | 1.3 | 115 | UMF0J101MDD |
| 10 (1A) | 22 | 5×5 | 0.20 | 3 | 2.6 | 80 | UMF1A220MDD |
| | 33 | 5×5 | 0.20 | 3.3 | 2.6 | 80 | UMF1A330MDD |
| | 47 | 6.3×5 | 0.20 | 4.7 | 1.3 | 115 | UMF1A470MDD |
| 16 (1C) | 10 | 4×5 | 0.18 | 3 | 5.0 | 50 | UMF1C100MDD |
| | 15 | 5×5 | 0.18 | 3 | 2.6 | 80 | UMF1C150MDD |
| | 22 | 5×5 | 0.18 | 3.52 | 2.6 | 80 | UMF1C220MDD |
| | 33 | 6.3×5 | 0.18 | 5.28 | 1.3 | 115 | UMF1C330MDD |
| | 47 | 6.3×5 | 0.18 | 7.52 | 1.3 | 115 | UMF1C470MDD |
| 25 (1E) | 4.7 | 4×5 | 0.14 | 3 | 5.0 | 50 | UMF1E4R7MDD |
| | 6.8 | 4×5 | 0.14 | 3 | 5.0 | 50 | UMF1E6R8MDD |
| | 10 | 5×5 | 0.14 | 3 | 2.6 | 80 | UMF1E100MDD |
| | 15 | 6.3×5 | 0.14 | 3.75 | 1.3 | 115 | UMF1E150MDD |
| | 22 | 6.3×5 | 0.14 | 5.5 | 1.3 | 115 | UMF1E220MDD |
| | 33 | 6.3×5 | 0.14 | 8.25 | 1.3 | 115 | UMF1E330MDD |
| 35 (1V) | 1 | 4×5 | 0.12 | 3 | 5.0 | 50 | UMF1V010MDD |
| | 1.5 | 4×5 | 0.12 | 3 | 5.0 | 50 | UMF1V1R5MDD |
| | 2.2 | 4×5 | 0.12 | 3 | 5.0 | 50 | UMF1V2R2MDD |
| | 3.3 | 4×5 | 0.12 | 3 | 5.0 | 50 | UMF1V3R3MDD |
| | 4.7 | 4×5 | 0.12 | 3 | 5.0 | 50 | UMF1V4R7MDD |
| | 6.8 | 5×5 | 0.12 | 3 | 2.6 | 80 | UMF1V6R8MDD |
| | 10 | 5×5 | 0.12 | 3.5 | 2.6 | 80 | UMF1V100MDD |
| | 15 | 6.3×5 | 0.12 | 5.25 | 1.3 | 115 | UMF1V150MDD |
| | 22 | 6.3×5 | 0.12 | 7.7 | 1.3 | 115 | UMF1V220MDD |

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).

If there is no size code in the part number, please add size code "1" and then add the appropriate code.

Please refer to page 18, 19 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.

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[510D476M035CC3DE3](#) [SK228M025AH5AAKPLP](#) [LKMK2502W101MF](#)