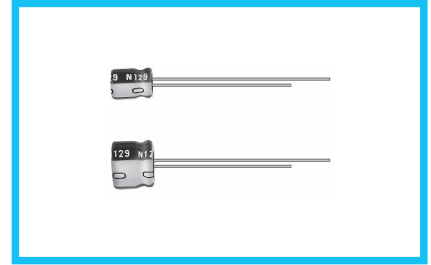
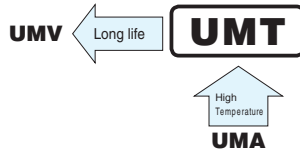


# UMT

5mmL, Wide Temperature Range



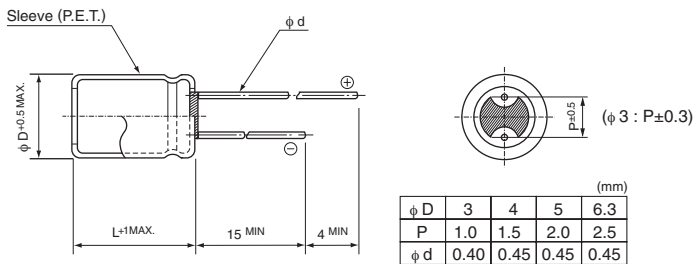
- Wide temperature range of  $-55$  to  $+105^{\circ}\text{C}$ , with 5mm height.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).



## Specifications

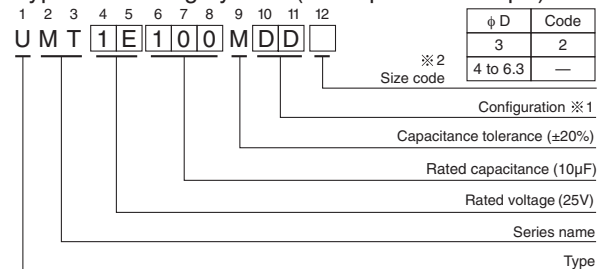
| Item  | Performance Characteristics  |  |      |      |      |             |             |    |  |
|---|--|--|------|------|------|-------------|-------------|----|--|
| Category Temperature Range                        | $-55$ to $+105^{\circ}\text{C}$  |  |      |      |      |             |             |    |  |
| Voltage Range                                     | 4 to 50V   |  |      |      |      |             |             |    |  |
| Rated Capacitance Range                           | 1 to $100\mu\text{F}$  |  |      |      |      |             |             |    |  |
| Rated Capacitance Tolerance                       | $\pm 20\%$ at 120Hz, $20^{\circ}\text{C}$  |  |      |      |      |             |             |    |  |
| Leakage Current                                   | After 2 minutes' application of rated voltage at $20^{\circ}\text{C}$ , leakage current is not more than $0.01\text{CV}$ or $3\mu\text{A}$ , whichever is greater.   |  |      |      |      |             |             |    |  |
| Tangent of loss angle (tan $\delta$ )             | Measurement frequency : 120Hz at $20^{\circ}\text{C}$  |  |      |      |      |             |             |    |  |
|   | Rated voltage (V)  | 4  | 6.3  | 10   | 16   | 25          | 35          | 50 | Figures in ( ) are for $\phi 3$ product. |
| tan $\delta$ (MAX.)                               | 0.37   | 0.28   | 0.24 | 0.20 | 0.16 | 0.13 (0.14) | 0.12 (0.14) |    |  |
| Stability at Low Temperature                      | Measurement frequency : 120Hz  |  |      |      |      |             |             |    |  |
|   | Rated voltage (V)  |  | 4    | 6.3  | 10   | 16          | 25          | 35 | 50                                       |
|   | Impedance ratio (MAX.)   | Z $-25^{\circ}\text{C}$ / Z $+20^{\circ}\text{C}$  | 6    | 3    | 3    | 2           | 2           | 2  | 2  |
| Z $-40^{\circ}\text{C}$ / Z $+20^{\circ}\text{C}$ |  | 12   | 8    | 5    | 4    | 3           | 3           | 3  |  |
| Endurance   | The specifications listed at right shall be met when the capacitors are restored to $20^{\circ}\text{C}$ after the rated voltage is applied for 1000 hours at $105^{\circ}\text{C}$ .  |  |      |      |      |             |             |    |  |
|   | Capacitance change   | Within $\pm 25\%$ of the initial capacitance value ( $\phi 3\text{mm}$ unit, and $\leq 16\text{V}$ )<br>Within $\pm 20\%$ of the initial capacitance value ( $\geq 25\text{V}$ ) |      |      |      |             |             |    |  |
|   | tan $\delta$   | 200% or less than the initial specified value  |      |      |      |             |             |    |  |
| Shelf Life  | The specifications listed at right shall be met when the capacitors are restored to $20^{\circ}\text{C}$ after the rated voltage is applied for 1000 hours at $105^{\circ}\text{C}$ .  |  |      |      |      |             |             |    |  |
|   | After storing the capacitors under no load at $105^{\circ}\text{C}$ for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at $20^{\circ}\text{C}$ , 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 18 about the end seal configuration.

## Type numbering system (Example : 25V 10 $\mu\text{F}$ )



※1 Configuration

| $\phi D$ | Pb-free leadwire<br>Pb-free PET sleeve |
|----------|--|
| 3        | CD                                     |
| 4 to 6.3 | DD                                     |

※2 For  $\phi 3\text{mm}$  unit, place size code of [2] to 12th digit.

## Frequency coefficient of rated ripple current

| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
|-------------|-------|--------|--------|-------|----------------|
| Coefficient | 0.70  | 1.00   | 1.17   | 1.36  | 1.50           |

• Dimension table in next page.

## UMT

### ■ Dimensions

| Rated Voltage (V)<br>(code) | Rated Capacitance (μF) | Case Size<br>φD×L (mm) | tan δ | Leakage Current (μA)<br>(at 20°C after 2 minutes) | Rated Ripple (mArms)<br>(105°C/120Hz) | Part Number  |
|-----------------------------|------------------------|------------------------|-------|---|---------------------------------------|--------------|
| 4<br>(0G)                   | 22                     | 4×5                    | 0.37  | 3   | 22                                    | UMT0G220MDD  |
|                             | 33                     | 5×5                    | 0.37  | 3   | 30                                    | UMT0G330MDD  |
|                             | 47                     | 5×5                    | 0.37  | 3   | 36                                    | UMT0G470MDD  |
|                             | 100                    | 6.3×5                  | 0.37  | 4   | 60                                    | UMT0G101MDD  |
| 6.3<br>(0J)                 | 22                     | 4×5                    | 0.28  | 3   | 22                                    | UMT0J220MDD  |
|                             | 33                     | 5×5                    | 0.28  | 3   | 30                                    | UMT0J330MDD  |
|                             | 47                     | 5×5                    | 0.28  | 3   | 36                                    | UMT0J470MDD  |
|                             | 100                    | 6.3×5                  | 0.28  | 6.3   | 60                                    | UMT0J101MDD  |
| 10<br>(1A)                  | 22                     | 5×5                    | 0.24  | 3   | 27                                    | UMT1A220MDD  |
|                             | 33                     | 5×5                    | 0.24  | 3.3   | 35                                    | UMT1A330MDD  |
|                             | 47                     | 6.3×5                  | 0.24  | 4.7   | 46                                    | UMT1A470MDD  |
| 16<br>(1C)                  | 10                     | 4×5                    | 0.20  | 3   | 18                                    | UMT1C100MDD  |
|                             | 10                     | 3×5                    | 0.20  | 3   | 14                                    | UMT1C100MCD2 |
|                             | 22                     | 5×5                    | 0.20  | 3.52  | 30                                    | UMT1C220MDD  |
|                             | 33                     | 6.3×5                  | 0.20  | 5.28  | 40                                    | UMT1C330MDD  |
|                             | 47                     | 6.3×5                  | 0.20  | 7.52  | 50                                    | UMT1C470MDD  |
| 25<br>(1E)                  | 4.7                    | 4×5                    | 0.16  | 3   | 13                                    | UMT1E4R7MDD  |
|                             | 4.7                    | 3×5                    | 0.16  | 3   | 10                                    | UMT1E4R7MCD2 |
|                             | 10                     | 5×5                    | 0.16  | 3   | 23                                    | UMT1E100MDD  |
|                             | 22                     | 6.3×5                  | 0.16  | 5.5   | 38                                    | UMT1E220MDD  |
|                             | 33                     | 6.3×5                  | 0.16  | 8.25  | 48                                    | UMT1E330MDD  |
| 35<br>(1V)                  | 2.2                    | 3×5                    | 0.14  | 3   | 7.5                                   | UMT1V2R2MCD2 |
|                             | 3.3                    | 4×5                    | 0.13  | 3   | 11                                    | UMT1V3R3MDD  |
|                             | 3.3                    | 3×5                    | 0.14  | 3   | 9                                     | UMT1V3R3MCD2 |
|                             | 4.7                    | 4×5                    | 0.13  | 3   | 15                                    | UMT1V4R7MDD  |
|                             | 10                     | 5×5                    | 0.13  | 3.5   | 25                                    | UMT1V100MDD  |
|                             | 22                     | 6.3×5                  | 0.13  | 7.7   | 48                                    | UMT1V220MDD  |
| 50<br>(1H)                  | 1                      | 4×5                    | 0.12  | 3   | 6.2                                   | UMT1H010MDD  |
|                             | 1                      | 3×5                    | 0.14  | 3   | 5.9                                   | UMT1H010MCD2 |
|                             | 2.2                    | 4×5                    | 0.12  | 3   | 11                                    | UMT1H2R2MDD  |
|                             | 2.2                    | 3×5                    | 0.14  | 3   | 9                                     | UMT1H2R2MCD2 |
|                             | 3.3                    | 4×5                    | 0.12  | 3   | 14                                    | UMT1H3R3MDD  |
|                             | 4.7                    | 5×5                    | 0.12  | 3   | 19                                    | UMT1H4R7MDD  |
|                             | 10                     | 6.3×5                  | 0.12  | 5   | 30                                    | UMT1H100MDD  |

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.