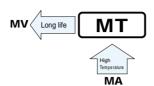
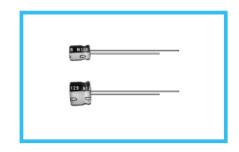




- Wide temperature range of -55 to +105°C, with 5mm height.
- Compliant to the RoHS directive (2011/65/EU).

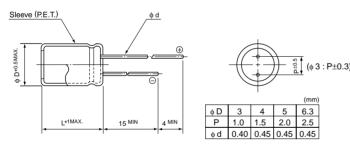




## ■Specifications

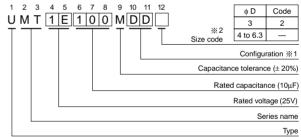
| Item                                  | Performance Characteristics   |   |   |  |      |      |                |    |             |             |              |           |
|---------------------------------------|---|---|---|--|------|------|----------------|----|-------------|-------------|--------------|-----------|
| Category Temperature Range            | -55 to +105°C   |   |   |  |      |      |                |    |             |             |              |           |
| Voltage Range                         | 4 to 50V  |   |   |  |      |      |                |    |             |             |              |           |
| Rated Capacitance Range               | 0.1 to 100μF  |   |   |  |      |      |                |    |             |             |              |           |
| Rated Capacitance Tolerance           | ±20% at 120Hz, 20°C   |   |   |  |      |      |                |    |             |             |              |           |
| Leakage Current                       | After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (μA), whichever is greater.   |   |   |  |      |      |                |    |             |             |              |           |
|                                       | Measurement frequency : 120Hz at 20°C   |   |   |  |      |      |                |    |             |             |              |           |
| Tangent of loss angle (tan $\delta$ ) | Rated voltage (V)   | 4   | 6.3   |  | 10   | 16   | 25             |    | 35          | 50          | Figures in ( | ) are for |
|                                       | tan δ (MAX.)  | 0.37  | 0.28  |  | 0.24 | 0.20 | 0.16 0.13 (0.1 |    | ).13 (0.14) | 0.12 (0.14) | φ 3 product. |           |
|                                       | Measurement frequency : 120Hz   |   |   |  |      |      |                |    |             |             |              |           |
|                                       | Rated voltage (V)   |   |   | 4  | 6.3  | 10   | 16             | 25 | 5 35        | 50          | ]            |           |
| Stability at Low Temperature          | Impedance ratio   | Z-25°C / Z+   | -20°C   | 6  | 3    | 3    | 2              | 2  | 2           | 2           |              |           |
|                                       | ZT / Z20 (MAX.)   | Z-40°C / Z+   | -20°C   | 12   | 8    | 5    | 4              | 3  | 3           | 3           |              |           |
|                                       | The specifications lis  | Capacitan   | ce change                                     | Within ±25% of the initial capacitance value (∮ 3mm unit,and ≦ 16V) Within ±20% of the initial capacitance value (≧ 25V) |      |      |                |    |             |             |              |           |
| Endurance                             | after the rated voltage   | tan δ   | 200% or less than the initial specified value |  |      |      |                |    |             |             |              |           |
|                                       | hours at 105°C.   | 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 black sleeve.  |   |   |  |      |      |                |    |             |             |              |           |

## ■Radial Lead Type



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

# Type numbering system (Example: 25V 10µF)



※1 Configuration

| φD       | Pb-free leadwire<br>Pb-free PET sleeve |
|----------|--|
| 3        | CD                                     |
| 4 to 6.3 | DD                                     |

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

#### ■ Dimensions

|          | V    | 4     |    | 6.3   |    | 10    |    | 16    |         | 25    |         | 35    |        | 50        |           |
|----------|------|-------|----|-------|----|-------|----|-------|---------|-------|---------|-------|--------|-----------|-----------|
| Cap.(µF) | Code | 0G    |    | 0J    |    | 1A    |    | 1C    |         | 1E    |         | 1V    |        | 1⊢        | 1         |
| 0.1      | 0R1  |       |    |       |    |       |    |       |         |       |         |       |        | •4×5      | 1.0       |
| 0.22     | R22  |       | i  |       | i  |       | i  |       |         |       |         |       | i      | •4×5      | 2.6       |
| 0.33     | R33  |       | !  |       |    |       | !  |       |         |       |         |       | !      | •4×5      | 3.2       |
| 0.47     | R47  |       |    |       |    |       |    |       |         |       |         |       |        | •4×5      | 3.8       |
| 1        | 010  |       | İ  |       |    |       | i  |       | i       |       |         |       | İ      | •4×5      | 6.2 (5.9) |
| 2.2      | 2R2  |       |    |       |    |       |    |       |         |       |         | 3×5   | 7.5    | •4×5      | 11 (9)    |
| 3.3      | 3R3  |       | İ  |       |    |       |    |       |         |       |         | • 4×5 | 11 (9) | 4×5       | 14        |
| 4.7      | 4R7  |       |    |       |    |       |    |       |         | ● 4×5 | 13 (10) | 4 × 5 | 15     | 5×5       | 19        |
| 10       | 100  |       | İ  |       |    |       | i  | • 4×5 | 18 (14) | 5×5   | 23      | 5×5   | 25     | 6.3×5     | 30        |
| 22       | 220  | 4×5   | 22 | 4×5   | 22 | 5×5   | 27 | 5×5   | 30      | 6.3×5 | 38      | 6.3×5 | 48     |           |           |
| 33       | 330  | 5×5   | 30 | 5×5   | 30 | 5×5   | 35 | 6.3×5 | 40      | 6.3×5 | 48      |       | i      |           |           |
| 47       | 470  | 5×5   | 36 | 5×5   | 36 | 6.3×5 | 46 | 6.3×5 | 50      |       |         |       | !      | Case size | Rated     |
| 100      | 101  | 6.3×5 | 60 | 6.3×5 | 60 |       |    |       |         |       |         |       |        | φD×L (mm) | ripple    |

Size \$\phi 3 \times 5\$ is available for capacitors marked "●" Figures in ( ) are for \$\phi\$ 3 product.

Rated ripple current (mArms) at 105°C 120Hz

## 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           |

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