

**UMP**

5mmL, Bi-Polarized



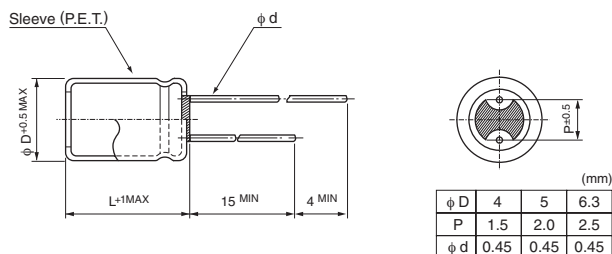
- Bi-polarized series with 5mm height.
- Compliant to the RoHS directive (2011/65/EU).



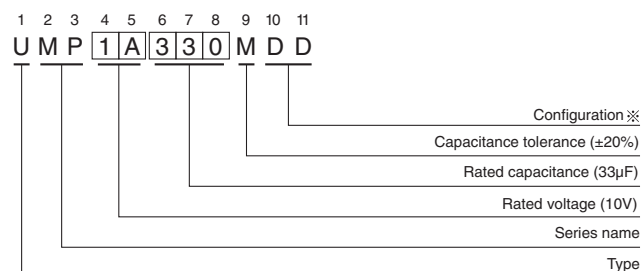
## Specifications

| Item                          | Performance Characteristics  |                 |      |      |                    |      |   |    |
|-------------------------------|--|-----------------|------|------|--------------------|------|---|----|
| Category Temperature Range    | -40 to +85°C   |                 |      |      |                    |      |   |    |
| Rated Voltage Range           | 6.3 to 50V   |                 |      |      |                    |      |   |    |
| Rated Capacitance Range       | 0.1 to 47μF  |                 |      |      |                    |      |   |    |
| Rated 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 0.05CV or 10 (μA), whichever is greater.   |                 |      |      |                    |      |   |    |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C  |                 |      |      |                    |      |   |    |
|                               | Rated voltage (V)  | 6.3             | 10   | 16   | 25                 | 35   | 50  |    |
|                               | tan δ (MAX.)   | 0.24            | 0.20 | 0.17 | 0.17               | 0.15 | 0.15  |    |
| Stability at Low Temperature  | Measurement frequency : 120Hz  |                 |      |      |                    |      |   |    |
|                               | Rated voltage (V)  |                 | 6.3  | 10   | 16                 | 25   | 35  | 50 |
|                               | Impedance ratio  | Z-25°C / Z+20°C | 4    | 3    | 2                  | 2    | 2   | 2  |
|                               | ZT / Z20 (MAX.)  | Z-40°C / Z+20°C | 8    | 6    | 4                  | 4    | 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 85°C with the polarity inverted every 250 hours.   |                 |      |      | 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 85°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



## Type numbering system (Example : 10V 33μF)



|                 |  |
|-----------------|--|
| ※ Configuration |  |
| φ D             | Pb-free leadwire<br>Pb-free PET sleeve |
| 4 to 6.3        | DD                                     |

## Dimensions

| V        | 6.3 | 10       | 16       | 25       | 35       | 50       |
|----------|-----|----------|----------|----------|----------|----------|
| Cap.(μF) | 0J  | 1A       | 1C       | 1E       | 1V       | 1H       |
| 0.1      | 0R1 |          |          |          |          | 4×5 1.0  |
| 0.22     | R22 |          |          |          |          | 4×5 2.0  |
| 0.33     | R33 |          |          |          |          | 4×5 2.8  |
| 0.47     | R47 |          |          |          |          | 4×5 4.0  |
| 1        | 010 |          |          |          |          | 4×5 8.4  |
| 2.2      | 2R2 |          |          |          | 4×5 8.4  | 5×5 13   |
| 3.3      | 3R3 |          |          | 5×5 12   | 5×5 16   | 5×5 17   |
| 4.7      | 4R7 |          | 4×5 12   | 5×5 16   | 5×5 18   | 6.3×5 20 |
| 10       | 100 | 4×5 17   | 5×5 23   | 6.3×5 27 | 6.3×5 29 |          |
| 22       | 220 | 5×5 28   | 6.3×5 33 | 6.3×5 37 |          |          |
| 33       | 330 | 6.3×5 37 | 6.3×5 41 | 6.3×5 49 |          |          |
| 47       | 470 | 6.3×5 45 |          |          |          |          |

Rated ripple current (mA rms) at 85°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.

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