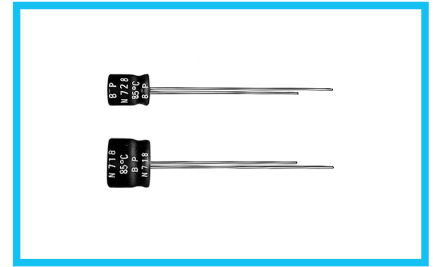


# ALUMINUM ELECTROLYTIC CAPACITORS

**MP** series 5mmL, Bi-Polarized



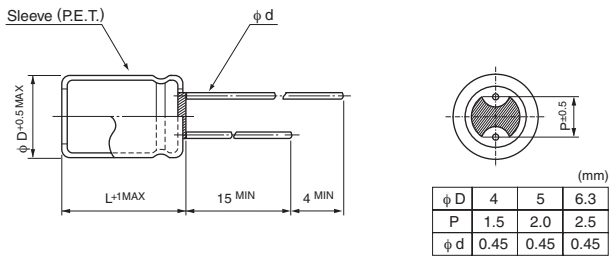
- Bi-polarized series with 5mm height.
- Compliant to the RoHS directive (2011/65/EU).



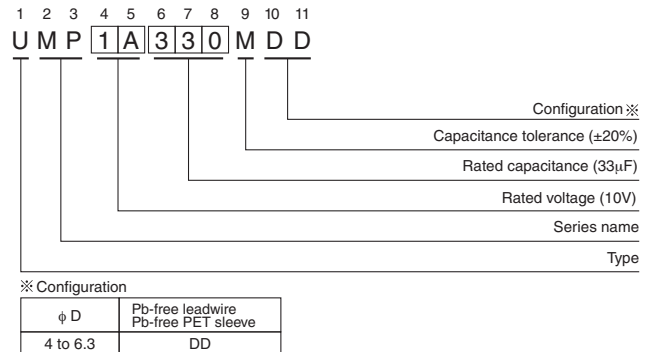
## Specifications

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																					
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.24</td> <td>0.20</td> <td>0.17</td> <td>0.17</td> <td>0.15</td> <td>0.15</td> </tr> </table>	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							
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Stability at Low Temperature	Measurement frequency : 120Hz																					
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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 2000 hours at 85°C with the polarity inverted every 250 hours.</p> <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															
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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)



## Dimensions

Cap. (μF)	Code	V		6.3		10		16		25		35		50	
		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	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											Case size φ D × L (mm)	Rated ripple

Rated ripple current (mArms) 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.