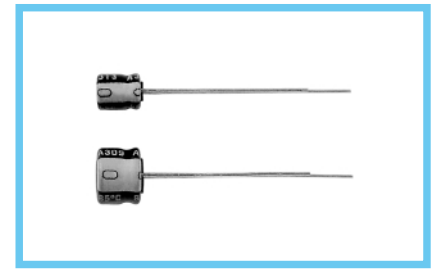


ML series 5mmL, Low Leakage Current



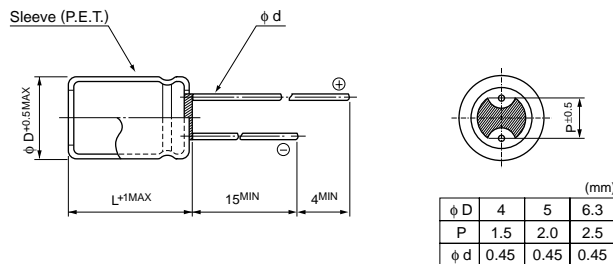
- Low leakage current series with 5mm height.
- Adapted to the RoHS directive (2002/95/EC).



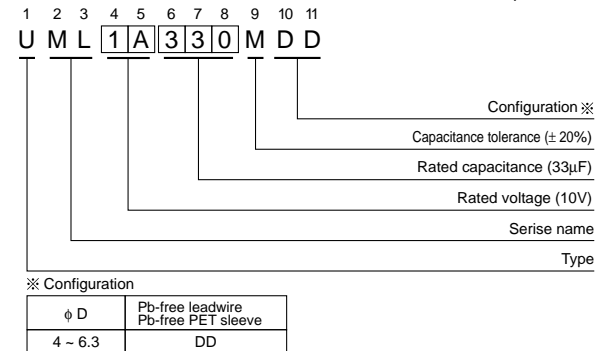
Specifications

Item	Performance Characteristics																							
Category Temperature Range	-40 ~ +85°C																							
Rated Voltage Range	4 ~ 50V																							
Rated Capacitance Range	0.1 ~ 100μF																							
Rated Capacitance Tolerance	±20% at 120Hz, 20°C																							
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.002CV or 0.4 (μA), whichever is greater.																							
tan δ	Measurement frequency : 120Hz, Temperature : 20°C																							
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>4</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>0.35</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table>	Rated voltage (V)	4	6.3	10	16	25	35	50	tan δ (MAX.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10							
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tan δ (MAX.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10																	
Stability at Low Temperature	Measurement frequency : 120Hz																							
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>4</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Impedance ratio Z-25°C / Z+20°C</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>ZT / Z20 (MAX.)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>	Rated voltage (V)	4	6.3	10	16	25	35	50	Impedance ratio Z-25°C / Z+20°C	7	4	3	2	2	2	2	ZT / Z20 (MAX.)	15	10	8	6	4	3
Rated voltage (V)	4	6.3	10	16	25	35	50																	
Impedance ratio Z-25°C / Z+20°C	7	4	3	2	2	2	2																	
ZT / Z20 (MAX.)	15	10	8	6	4	3	3																	
Endurance	After 1000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.																							
	Capacitance change	Within ±20% of initial value																						
	tan δ	200% or less of initial specified value																						
Shelf Life	After storing the capacitors under no load at 85°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.																							
	Leakage current	Initial specified value or less																						
Marking	Printed with white color letter on black sleeve.																							

Radial Lead Type



Type numbering system (Example : 10V 33μF)



Dimensions

Cap.(μF)	Code	4		6.3		10		16		25		35		50	
		0G	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	17
4.7	4R7									4×5	16	4×5	18	5×5	20
10	100							4×5	23	5×5	27	5×5	29	6.3×5	33
22	220		4×5	28	5×5	33	5×5	37	6.3×5	42	6.3×5	46			
33	330	5×5	28	5×5	37	5×5	41	6.3×5	49	6.3×5	52				
47	470	5×5	33	5×5	45	6.3×5	52	6.3×5	58						
100	101	6.3×5	56	6.3×5	70										

Rated Ripple (mArms) at 85°C 120Hz

Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz ~
Coefficient	0.70	1.00	1.17	1.36	1.50

Please refer to page 21, 22, 23 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.