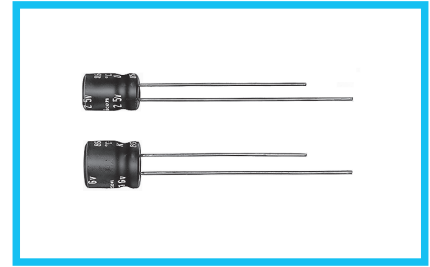


## USP 7mmL, Bi-Polarized



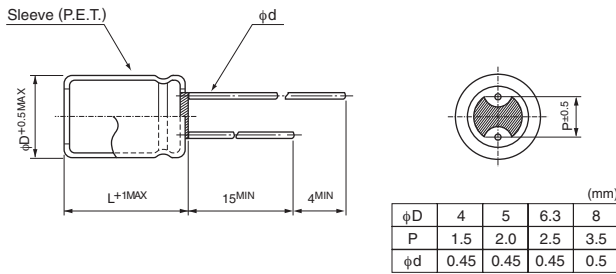
- Bi-polarized series with 7mm height.
- Extended capacitance range by an addition of φ8 product.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).



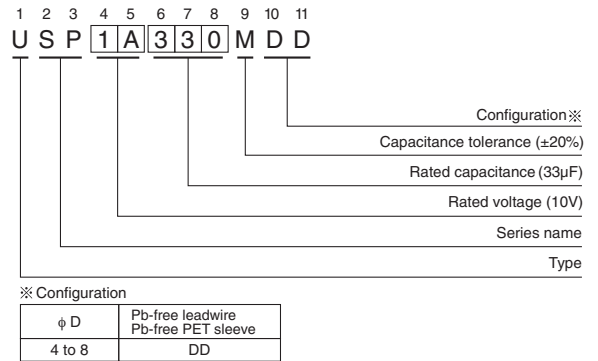
### Specifications

Item	Performance Characteristics																			
Category Temperature Range	-40 to +85°C																			
Rated Voltage Range	6.3 to 50V																			
Rated Capacitance Range	0.1 to 220μF																			
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>0.16</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	tan δ (MAX.)	0.24	0.20	0.16	0.16	0.14	0.12					
Rated voltage (V)	6.3	10	16	25	35	50														
tan δ (MAX.)	0.24	0.20	0.16	0.16	0.14	0.12														
Stability at Low Temperature	Measurement frequency : 120 Hz																			
	<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 rowspan="2">Impedance ratio (MAX.)</td> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	Impedance ratio (MAX.)	Z-25°C / Z+20°C	4	3	2	2	2	Z-40°C / Z+20°C	8	6	4	4
Rated voltage (V)	6.3	10	16	25	35	50														
Impedance ratio (MAX.)	Z-25°C / Z+20°C	4	3	2	2	2														
	Z-40°C / Z+20°C	8	6	4	4	3														
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													
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)



### Dimensions

Cap. (μF)	Code	V		6.3		10		16		25		35		50	
		0J	1A	1C	1E	1V	1H								
0.1	0R1													4 × 7	1.0
0.22	R22													4 × 7	2.3
0.33	R33													4 × 7	3.5
0.47	R47													4 × 7	5.0
1	010													4 × 7	10
2.2	2R2													4 × 7	14
3.3	3R3													4 × 7	16
4.7	4R7													5 × 7	22
10	100				4 × 7	24		5 × 7	30	6.3 × 7	35	6.3 × 7	37	6.3 × 7	27
22	220				5 × 7	40		6.3 × 7	51	6.3 × 7	53	6.3 × 7	62	8 × 7	44
33	330				5 × 7	42		6.3 × 7	56	6.3 × 7	63	8 × 7	73	8 × 7	65
47	470				6.3 × 7	58		6.3 × 7	67	6.3 × 7	75	8 × 7	87		
100	101				8 × 7	95		8 × 7	110	8 × 7	125				
220	221				8 × 7	140									

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.

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