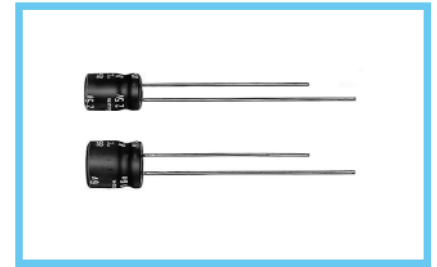


SP 7mmL, Bi-Polarized
series



- Bi-polarized series with 7mm height.
- Extended capacitance range by an addition of $\phi 8$ product.
- Adapted to the RoHS directive (2002/95/EC).

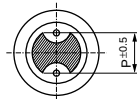
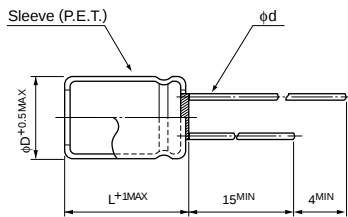
SP ← Bi-polarized SA



Specifications

Item	Performance Characteristics							
Category Temperature Range	-40 ~ +85°C							
Rated Voltage Range	6.3 ~ 50V							
Rated Capacitance Range	0.1 ~ 220μF							
Capacitance Tolerance	± 20% at 120Hz, 20°C							
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.05CV or 10 (μA), whichever is greater.							
tan δ	Measurement frequency : 120Hz, Temperature : 20°C							
	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							
	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	After 2000 hours' application of rated voltage at 85°C with the polarity inverted every 250 hours, capacitors meet the characteristic requirements listed at right.							
	Capacitance change		Within ±20% of initial value					
	tan δ		200% or less of initial specified value					
	Leakage current		Initial specified value or less					
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.							
Marking	Printed with white color letter on black sleeve.							

Radial Lead Type



	(mm)			
φD	4	5	6.3	8
P	1.5	2.0	2.5	3.5
φd	0.45	0.45	0.45	0.5

Type numbering system (Example : 10V 33 μ F)

1	2	3	4	5	6	7	8	9	10	11
U	S	P	1	A	3	3	0	M	D	D
									Configuration※	
									Capacitance tolerance (±20%)	
									Rated Capacitance (33μF)	
									Rated voltage (10V)	
									Series name	
									Type	

※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
4 ~ 8	DD

Dimensions

V		6.3		10		16		25		35		50	
Cap.(μF)	Code	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											5 × 7	20
4.7	4R7					4 × 7	18	5 × 7	21	4 × 7	16	5 × 7	27
10	100			4 × 7	24	5 × 7	30	6.3 × 7	35	6.3 × 7	37	8 × 7	44
22	220			5 × 7	40	6.3 × 7	51	6.3 × 7	53	8 × 7	62	8 × 7	65
33	330	5 × 7	42	6.3 × 7	56	6.3 × 7	63	8 × 7	73	8 × 7	76		
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					Case size φ D×L (mm)	Rated ripple
220	221	8 × 7	140										

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

Rated Ripple (mA rms) at 85°C 120Hz

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