



SS Series

Features

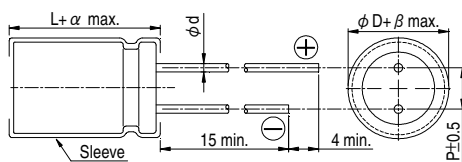
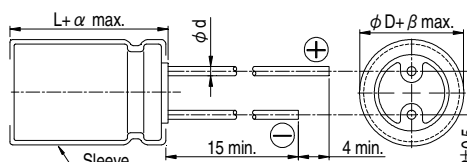
- 85°C, 1,000 hours assured
- Standard micro miniature size with 5mm height
- RoHS compliance



Specifications

Items	Performance																																							
Category Temperature Range	-40℃ ~ +85℃																																							
Capacitance Tolerance	±20% (at 120 Hz, 20℃)																																							
Leakage Current (at 20℃)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V																																							
Tanδ (at 120 Hz, 20℃)	<table><tr><td>Rated Voltage</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>Tanδ (max)</td><td>0.35</td><td>0.25</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.13</td><td>0.10</td></tr></table>								Rated Voltage	4	6.3	10	16	25	35	50	Tanδ (max)	0.35	0.25	0.20	0.17	0.15	0.13	0.10																
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Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</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 rowspan="2">Impedance Ratio</td><td>Z(-25℃)/Z(+20℃)</td><td>7</td><td>6</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃)/Z(+20℃)</td><td>15</td><td>12</td><td>8</td><td>6</td><td>4</td><td>4</td><td>4</td></tr></table>								Rated Voltage		4	6.3	10	16	25	35	50	Impedance Ratio	Z(-25℃)/Z(+20℃)	7	6	4	3	2	2	2	Z(-40℃)/Z(+20℃)	15	12	8	6	4	4	4						
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Endurance	<table><tr><td>Test Time</td><td colspan="7">1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td colspan="7">Within ±30% of initial value for 4 ~ 6.3V; Within ±25% of initial value for 10 ~ 50V</td></tr><tr><td>Tanδ</td><td colspan="7">Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="7">Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 1,000 hours at 85℃.								Test Time	1,000 Hrs							Capacitance Change	Within ±30% of initial value for 4 ~ 6.3V; Within ±25% of initial value for 10 ~ 50V							Tanδ	Less than 200% of specified value							Leakage Current	Within specified value						
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Shelf Life Test	Test time: 500 hours; other items are the same as those for the Endurance.																																							
Ripple Current and Frequency Multipliers	<table><tr><td> Freq.(Hz) Cap.(μF) </td><td>60 (50)</td><td>120</td><td>500</td><td>1k</td><td>10k up</td></tr><tr><td>≤ 47</td><td>0.75</td><td>1.00</td><td>1.15</td><td>1.34</td><td>1.50</td></tr><tr><td>100 ~ 330</td><td>0.80</td><td>1.00</td><td>1.08</td><td>1.20</td><td>1.30</td></tr></table>								Freq.(Hz) Cap.(μF)	60 (50)	120	500	1k	10k up	≤ 47	0.75	1.00	1.15	1.34	1.50	100 ~ 330	0.80	1.00	1.08	1.20	1.30														
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Diagram of Dimensions

1. $\phi D = 3\text{mm}$ 2. $\phi D \geq 4\text{mm}$ 

Unit: mm

Lead Spacing and Diameter

ϕD	3	4	5	6.3	8
P	1.0	1.5	2.0	2.5	2.5
ϕd	0.4	0.45			
α	1.0				
β	0.5				

Dimension and Permissible Ripple Current

Dimension: $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 120 Hz, 85°C

Rated Volt. (V _{DC})		4V (0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
μF	Contents	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA	φ D×L	mA
0.33	R33													3×5	2.8
0.47	R47													3×5	4
1	010													4×5(3×5)	8.7(7)
2.2	2R2											4×5(3×5)	8.7(7)	4×5(3×5)	10(9)
3.3	3R3									4×5(3×5)	11(10)	4×5	12	4×5	13
4.7	4R7							4×5(3×5)	14(11)	4×5	14	4×5	17	5×5	20
10	100					4×5(3×5)	17(13)	4×5	23	5×5	27	5×5	27	6.3×5	31
22	220			4×5(3×5)	22(18)	5×5	30	5×5	35	6.3×5	42	6.3×5	46	6.3×5	46
33	330	4×5	27	4×5	34	5×5	41	5×5	49	6.3×5	52	6.3×5	52	8×5	66
47	470	4×5	34	5×5	37	6.3×5	50	6.3×5	58	6.3×5	58	8×5	72	8×5	80
100	101	5×5	55	6.3×5	62	6.3×5	70	8×5	99	8×5	99				
220	221	6.3×5	74	8×5	104	8×5	120								
330	331	8×5	105	8×5	120										

Part Numbering System

SS Series	330μF	±20%	6.3V	Bulk Package	Gas Type	8 φ × 5L	Pb-free and PET sleeve
SS-	331	M	0J	BK	-	0805	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration and Package	Rubber Type	Case Size	Lead Wire and Sleeve type

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 13.