



SG Series

Features

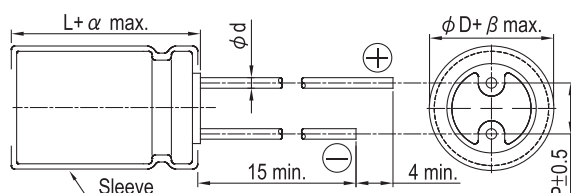
- 105°C, 1,000 hours assured
- High temperature Category range, with 7mm height
- RoHS compliance



Specifications

Items	Performance																																						
Category Temperature Range	-40°C ~ +105°C																																						
Capacitance Tolerance	±20% (at 120 Hz, 20°C)																																						
Leakage Current (at 20°C)	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°C)	<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><td>63</td></tr><tr><td>Tanδ (max)</td><td>0.35</td><td>0.23</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.10</td></tr></table>										Rated Voltage	4	6.3	10	16	25	35	50	63	Tanδ (max)	0.35	0.23	0.20	0.17	0.15	0.12	0.10	0.10											
Rated Voltage	4	6.3	10	16	25	35	50	63																															
Tanδ (max)	0.35	0.23	0.20	0.17	0.15	0.12	0.10	0.10																															
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><td>63</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25°C)/Z(+20°C)</td><td>6</td><td>4</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40°C)/Z(+20°C)</td><td>12</td><td>10</td><td>8</td><td>6</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></table>										Rated Voltage		4	6.3	10	16	25	35	50	63	Impedance Ratio	Z(-25°C)/Z(+20°C)	6	4	3	3	2	2	2	2	Z(-40°C)/Z(+20°C)	12	10	8	6	4	4	4	4
Rated Voltage		4	6.3	10	16	25	35	50	63																														
Impedance Ratio	Z(-25°C)/Z(+20°C)	6	4	3	3	2	2	2	2																														
	Z(-40°C)/Z(+20°C)	12	10	8	6	4	4	4	4																														
Endurance	<table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 1,000 hours at 105°C.										Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value																					
Test Time	1,000 Hrs																																						
Capacitance Change	Within ±20% of initial value																																						
Tanδ	Less than 200% of specified value																																						
Leakage Current	Within specified value																																						
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>1.20</td><td>1.30</td><td>1.45</td></tr><tr><td>100 ~ 330</td><td>0.88</td><td>1.00</td><td>1.10</td><td>1.15</td><td>1.20</td></tr></table>										Freq.(Hz) Cap.(μF)	60 (50)	120	500	1k	10k up	≤ 47	0.75	1.00	1.20	1.30	1.45	100 ~ 330	0.88	1.00	1.10	1.15	1.20											
Freq.(Hz) Cap.(μF)	60 (50)	120	500	1k	10k up																																		
≤ 47	0.75	1.00	1.20	1.30	1.45																																		
100 ~ 330	0.88	1.00	1.10	1.15	1.20																																		

Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

ϕD	4	5	6.3	8
P	1.5	2.0	2.5	3.5
ϕd	0.45	0.5		
α	1.0			
β	0.5			

Dimension and Permissible Ripple Current

Dimension: φD × L(mm)

Ripple Current: mA/rms at 120 Hz, 105°C

Rated Volt. (V _{DC})		4V (0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)	
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	φ D×L	mA
1	010													4×7	10	4×7	11
2.2	2R2													4×7	15	4×7	17
3.3	3R3													4×7	18	4×7	21
4.7	4R7											4×7	22	5×7*	23	5×7	26
10	100							4×7	25	4×7	26	5×7*	30	6.3×7*	34	6.3×7	40
22	220			4×7	31	4×7	32	5×7*	39	5×7*	41	6.3×7	47	6.3×7	53	8×7	70
33	330	4×7	32	4×7	32	4×7	35	5×7	43	6.3×7	53	8×7*	71	8×7	76		
47	470	4×7	38	4×7	38	5×7*	47	6.3×7*	59	6.3×7	65	8×7	83	8×7	85		
100	101	5×7	61	6.3×7*	75	6.3×7	80	6.3×7	90	8×7	125						
220	221	6.3×7	90	6.3×7	99	8×7	140	8×7	146								
330	331	8×7	156	8×7	156												

Note: Case size in mark of "*" is available to product down size.

Part Numbering System

SG Series	330μF	±20%	6.3V	Bulk Package	Gas Type	8 φ × 7L	Pb-free and PET sleeve
SG-	331	M	0J	BK	-	0807	
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.