

SS Series

Miniaturization of SC, SA and SL series

SS series is a miniaturized version of SC, SA and SL series. Suitable for switching power supplies, etc. to make more compact. Lead free-flow is supported.



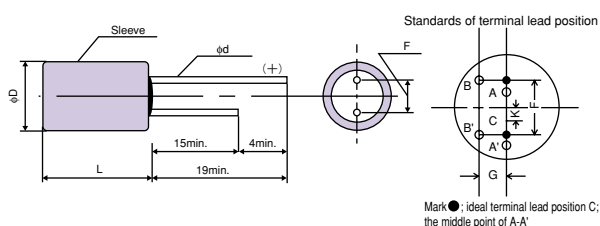
Specifications

Items	Conditions	Characteristics		
Category temperature range	—	-55°C to +105°C		
Tolerance on rated capacitance	120Hz	M : ±20%		
Tangent of loss angle	120Hz	Less than or equal to the value of Table18		
Leakage current ※1	After 2 minutes	Less than or equal to the value of Table18		
ESR	100KHz to 300KHz	Less than or equal to the value of Table18		
Characteristics of impedance ratio at high temp. and low temp.	Based the value at 100KHz, +20°C	-55°C	Z / Z 20°C	0.75 to 1.25
		+105°C	Z / Z 20°C	0.75 to 1.25
Endurance	105°C, 1,000h, Rated voltage applied (E, F size : 2,000h)	ΔC/C	Within ±20%	
		tanδ	1.5 times or less than an initial standard	
		Leakage current	Below an initial standard	
Damp heat (Steady state)	60°C, 90 to 95%RH 1,000h, No-applied voltage	ΔC/C	Within ±20%	
		tanδ	2 times or less than an initial standard	
		Leakage current	Below an initial standard	
Resistance to soldering heat	Flow method (260±5°C X 10s)	ΔC/C	Within ±5%	
		tanδ	1.5 times or less than an initial standard	
		Leakage current	Below an initial standard (after voltage processing)	

※1 In case of some problems for measured values, measure after applying rated voltage for 30 minutes at 105°C.

Dimensions

(unit : mm)



Size Code	φD±0.5max.	Lmax.	F	φd±0.05	Gmax.	Kmax.
A'	4.0	6.0	1.5±0.5	0.45	0.5	0.5
B'	5.0	6.0	2.0±0.5	0.45	0.5	0.5
C'	6.3	6.0	2.5±0.5	0.45	0.5	0.5
D	6.3	10.8	2.5±0.5	0.60	0.5	0.5
E	8.0	11.5	3.5±0.5	0.60	0.8	0.8
F	10.0	11.5	5.0±0.5	0.60	0.8	0.8

Size List

RV : Rated voltage
(SV) : Surge voltage (Room temperature)

μF	RV (SV)	4 (4.6)	6.3 (7.2)	10 (12)	16 (18.4)	20 (23.0)
2.2						A'
3.3						A'
4.7					A'	B'
6.8					A'	B'
10				A'	B'	C'
15			A'		B'	C'
22				B'		C'
33			B'		C'	
47						D
68	C'				D	
100				D		E
150	D			E		F
220			E			
330				F		
470	F					

※For the minimum packing quantity, please refer to page 55.

■Table18 SS Series Characteristics List

Size Code	Part Number	Rated voltage (V)	Rated capacitance (μF)	ESR 100kHz to 300kHz (mΩ) (max.)	Allowable ripple current (mA rms) ※2	Tangent of loss angle (max.)	Leakage current (μA) (max.) ※1
A'	20SS2R2M	20	2.2	400	450	0.05	2.20
	20SS3R3M	20	3.3	400	500	0.06	3.30
	16SS4R7M	16	4.7	400	540	0.06	3.76
	16SS6R8M	16	6.8	400	540	0.06	5.44
	10SS10M	10	10	350	560	0.06	5.00
	6SS15M	6.3	15	350	560	0.06	4.73
B'	20SS4R7M	20	4.7	250	720	0.05	4.70
	20SS6R8M	20	6.8	180	745	0.05	6.80
	16SS10M	16	10	150	780	0.05	8.00
	16SS15M	16	15	150	780	0.05	12.00
	10SS22M	10	22	150	780	0.05	11.00
	6SS33M	6.3	33	150	780	0.05	10.40
C'	20SS10M	20	10	100	1150	0.06	10.00
	20SS15M	20	15	100	1230	0.06	15.00
	20SS22M	20	22	100	1230	0.06	22.00
	16SS33M	16	33	100	1230	0.06	26.40
	4SS68M	4	68	70	1430	0.06	13.60
D	20SS47M	20	47	60	1830	0.06	47.00
	16SS68M	16	68	50	2000	0.07	54.40
	10SS100M	10	100	40	2100	0.07	50.00
	4SS150M	4	150	40	2100	0.08	30.00
E	20SS100M	20	100	30	2740	0.07	100.00
	10SS150M	10	150	30	2780	0.07	75.00
	6SS220M	6.3	220	30	3000	0.07	69.30
F	20SS150M	20	150	30	3200	0.07	150.00
	10SS330M	10	330	25	3500	0.07	165.00
	4SS470M	4	470	25	3500	0.07	94.00

※1 After 2 minutes

※2 100kHz, +45°C

Temperature coefficient for allowable ripple current

Ambient Temp.	$T_x \leq 45^\circ\text{C}$	$45^\circ\text{C} < T_x \leq 65^\circ\text{C}$	$65^\circ\text{C} < T_x \leq 85^\circ\text{C}$	$85^\circ\text{C} < T_x \leq 95^\circ\text{C}$	$95^\circ\text{C} < T_x \leq 105^\circ\text{C}$
Coefficient	1	0.85	0.7	0.4	0.25

Frequency coefficient for allowable ripple current

Frequency	$120\text{Hz} \leq f < 1\text{kHz}$	$1\text{kHz} \leq f < 10\text{kHz}$	$10\text{kHz} \leq f < 100\text{kHz}$	$100\text{kHz} \leq f \leq 500\text{kHz}$
Coefficient	0.05	0.2	0.5	1