

SH Series

Long Life (105°C X 5,000h)

SH series has a long life (guaranteed at 105°C for 5,000h) with keeping high frequency characteristics. Please use the SH series for industrial equipment that requires high reliability.



Specifications

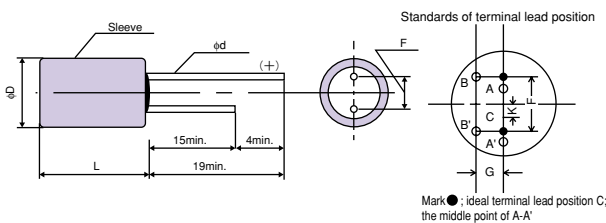
Items	Conditions	Characteristics	
Category temperature range	—	-55°C to +105°C	
Tolerance on rated capacitance	120Hz	M : ±20%	
Tangent of loss angle	120Hz	Less than or equal to the value of Table16	
Leakage current ※2	After 2 minutes	Less than or equal to the value of Table16	
ESR	—	Less than or equal to the value of Table16	
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, 5,000h, Rated voltage applied (25V→20V applied) ※1	ΔC/C	Within ±30%
		tanδ	1.5 times or less than an initial standard
		Leakage current	5 times or less than an initial standard
Damp heat (Steady state)	60°C, 90 to 95%RH 1,000h, No-applied voltage	ΔC/C	Within ±10%
		tanδ	1.5 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	Below an initial standard
		Leakage current	Below an initial standard (after voltage processing)

※1 Please reduce 0.25V per 1°C from over 85°C for 25V products.

※2 In case of some problems for measured values, measure after applying rated voltage for 6.3 to 20V products or temperature derating voltage for 25V products for 30 minutes at 105°C.

Dimensions

(unit : mm)



Size Code	φD±0.5max.	Lmax.	F	φd±0.05	Gmax.	Kmax.
A	4.0	7.8	2.0±0.5	0.45	0.5	0.5
B	5.0	7.8	2.0±0.5	0.45	0.5	0.5
C	6.3	7.8	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 (room temperature)

μF	RV (SV)	6.3 (7.2)	10 (11.5)	16 (18.4)	20 (23.0)	25 (25.0)
1.0						A
1.5						A
2.2				A		B
3.3				A		B
4.7			A	B		C
6.8	A		B	B		C
10			B			C
15	B				C	D
22					C	
33				C	D	
47	C			D	E	
68			D		E	
100				E	F	
150	E			F		
220			F			
330	F					

※For the minimum packing quantity, please refer to page 53.

Table16 SH Series Characteristics List

Size Code	Part Number ※1	Rated Voltage (V)	Rated Capacitance (μF)	ESR 100kHz to 300kHz (mΩ) (max.)	Allowable ripple current (mA rms)※3	Tangent of loss angle (max.)	Leakage current (μA) (max.)※2
A	25SH1M	25	1.0	350	430	0.03	0.50
	25SH1R5M	25	1.5	300	435	0.03	0.75
	16SH2R2M	16	2.2	280	450	0.04	0.70
	16SH3R3M	16	3.3	280	500	0.04	1.06
	10SH4R7M	10	4.7	280	540	0.05	0.94
	6SH6R8M	6.3	6.8	250	560	0.05	0.86
B	25SH2R2M	25	2.2	200	695	0.03	1.10
	25SH3R3M	25	3.3	200	700	0.03	1.65
	16SH4R7M	16	4.7	180	720	0.04	1.50
	16SH6R8M	16	6.8	150	745	0.04	2.18
	10SH10M	10	10	150	780	0.05	2.00
	6SH15M	6.3	15	120	815	0.05	1.89
C	25SH4R7M	25	4.7	100	1130	0.03	2.35
	25SH6R8M	25	6.8	100	1140	0.03	3.40
	25SH10M	25	10	90	1150	0.03	5.00
	20SH15M	20	15	90	1200	0.05	6.00
	20SH22M	20	22	70	1300	0.05	8.80
	16SH33M	16	33	70	1370	0.06	10.56
	6SH47M	6.3	47	60	1430	0.07	5.92
D	25SH15M	25	15	70	1650	0.04	7.50
	20SH33M	20	33	70	1710	0.06	13.20
	16SH47M	16	47	60	1830	0.06	15.04
	10SH68M	10	68	50	2000	0.07	13.60
E	20SH47M	20	47	40	2450	0.06	18.80
	20SH68M	20	68	36	2600	0.06	27.20
	16SH100M	16	100	30	2740	0.06	32.00
	6SH150M	6.3	150	30	2780	0.07	18.90
F	20SH100M	20	100	30	3210	0.06	40.00
	16SH150M	16	150	28	3260	0.06	48.00
	10SH220M	10	220	27	3370	0.07	44.00
	6SH330M	6.3	330	25	3500	0.07	41.58

※1 Tolerance on rated capacitance : M ±20%

※2 After 2 minutes

※3 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