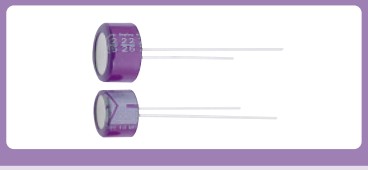
SL Series

Low-profile products

The SL series is low profile with a category upper limit temperature of 105°C. Use the SL series for compact and slim designs, such as VTRs, video cameras, car stereos, etc.



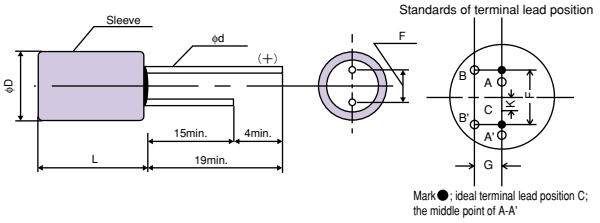
■Specifications

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 Table15		
Leakage current ※2	After 2 minutes	Less than or equal to the value of Table15		
ESR	—	Less than or equal to the value of Table15		
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, 2,000h, Rated voltage applied (E', F' size ; 1,000h) (25V→20V applied) ※1	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 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 4 to 16V 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	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
E'	8.0	6.0	3.5±0.5	0.50	0.8	0.8
F'	10.0	6.0	5.0±0.5	0.50	0.8	0.8

■Size List

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

μF \ RV (SV)	4 (4.6)	6.3 (7.2)	10 (11.5)	16 (18.4)	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'	C'
10			B'	C'	
15		B'		C'	E'
22			C'		F'
33			C'		
47			C'	E'	
68			E'	F'	
100		E'	F'		
150	E'	F'			
220	F'				

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

■Table15 SL Series Characteristics List

Size Code	Part Number ※1	Rated Voltage (V)	Rated Capacitance (μF)	ESR 100kHz to 300kHz (mΩ) (max.)	Allowable ripple current (mArms) ※3	Tangent of loss angle (max.)	Leakage current (μA) (max.)※2
A'	25SL1M	25	1	450	430	0.05	0.50
	25SL1R5M	25	1.5	400	435	0.05	0.75
	16SL2R2M	16	2.2	400	450	0.05	0.70
	16SL3R3M	16	3.3	400	500	0.06	1.06
	10SL4R7M	10	4.7	400	540	0.06	0.94
	6SL6R8M	6.3	6.8	350	560	0.06	0.86
B'	25SL2R2M	25	2.2	250	695	0.05	1.10
	25SL3R3M	25	3.3	250	700	0.05	1.65
	16SL4R7M	16	4.7	250	720	0.05	1.50
	16SL6R8M	16	6.8	180	745	0.05	2.18
	10SL10M	10	10	150	780	0.05	2.00
	6SL15M	6.3	15	120	815	0.06	1.89
C'	25SL4R7M	25	4.7	100	1130	0.06	2.35
	25SL6R8M	25	6.8	100	1140	0.06	3.40
	16SL10M	16	10	100	1150	0.06	3.20
	16SL15M	16	15	100	1230	0.06	4.80
	10SL22M	10	22	80	1270	0.06	4.40
	10SL33M	10	33	80	1350	0.06	6.60
	10SL47M	10	47	70	1430	0.06	9.40
E'	25SL15M	25	15	75	1400	0.07	7.50
	16SL47M	16	47	70	1550	0.07	15.04
	10SL68M	10	68	65	1600	0.07	13.60
	6SL100M	6.3	100	65	1600	0.07	12.60
	4SL150M	4	150	60	2000	0.07	12.00
F'	25SL22M	25	22	70	1600	0.07	11.00
	16SL68M	16	68	65	1850	0.07	21.76
	10SL100M	10	100	60	2100	0.07	20.00
	6SL150M	6.3	150	60	2100	0.07	18.90
	4SL220M	4	220	55	2400	0.07	17.60

※1 Tolerance on rated capacitance : M ±20%
※2 After 2 minutes
※3 100kHz, +45°C

Temperature coefficient for allowable ripple current

Ambient Temp.	Tx≦45°C	45°C＜Tx≦65°C	65°C＜Tx≦85°C	85°C＜Tx≦95°C	95°C＜Tx≦105°C
Coefficient	1	0.85	0.7	0.4	0.25

Frequency coefficient for allowable ripple current

Frequency	120Hz≦ f ＜1kHz	1kHz≦ f ＜10kHz	10kHz≦ f ＜100kHz	100kHz≦ f ≦500kHz
Coefficient	0.05	0.2	0.5	1