Radial lead type

SEPC Series

Update

- RoHS compliance
- Small size • Low profile • Super low ESR
- Large capacitance • 105℃ 5,000h

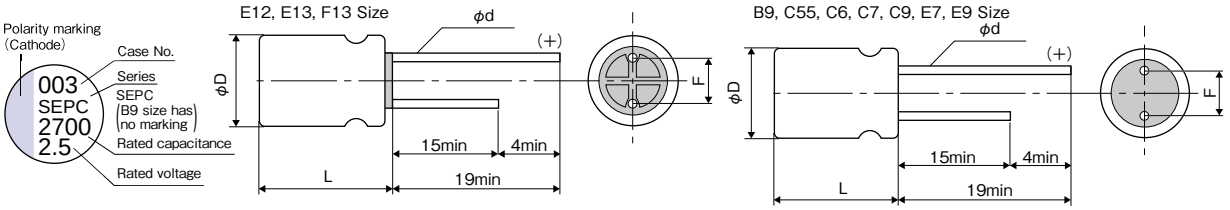
SEPC is designed to have even lower ESR than the SEP series.
Suitable for use on computer and peripheral products such as motherboards, servers and VGAs. Lead free-flow is supported.※2

Specifications

Items	Condition		Specifications				
Rated voltage (V)	–		2.5	4.0	6.3	10	16
Surge voltage (V)	Room temperature		3.3	5.2	8.2	12	18
Category temperature range (℃)	–		−55 to +105				
Capacitance tolerance (%)	120Hz/20℃		M : ±20				
Dissipation Factor (DF)	120Hz/20℃		Please see the attached characteristics list				
Leakage current※1	Rated voltage applied, after 2 minutes		Please see the attached characteristics list				
Equivalent series resistance (ESR)	100kHz to 300kHz/20℃		Please see the attached characteristics list				
Characteristics of impedance ratio at high temp. and low temp.	Based the value at 100kHz, +20℃	−55℃ Z/Z20℃	0.75 to 1.25				
		+105℃ Z/Z20℃	0.75 to 1.25				
Endurance	105℃, 5,000h, Rated voltage applied	△C/C	Within ±20% of the initial value				
		DF	Within 1.5 times of the initial limit				
		ESR	Within 1.5 times of the initial limit				
		LC	Within the initial limit				
Damp heat(Steady state)	60℃, 90%RH, 1,000h, No-applied voltage	△C/C	Within ±20% of the initial value				
		DF	Within 1.5 times of the initial limit				
		ESR	Within 1.5 times of the initial limit				
		LC	Within the initial limit (after voltage processing)				
Resistance to soldering heat※2	Flow method (260±5℃ X 10s)	△C/C	Within ±5% of the initial value				
		DF	Within the initial limit				
		ESR	Within the initial limit				
		LC	Within the initial limit (after voltage processing)				

※1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105℃.
※2 Please refer to page 26 for flow soldering conditions.

Marking and dimensions



B9, C55, C6, C7, C9, E7, E9 size flat rubber is used.

Size list

RV : Rated voltage

μF \ RV	2.5	4.0	6.3	10	16
100	B9				C6, C9
150					E7
180					E9, E12
220			C55		E7
270				E7	E9, E12
330	B9, C9				
390	C6				
470	B9		C7,C9, E9, E13		F13
560	B9, C6, C9, E9	C9, E9, E13	C9, E9		
680		E13	F13		
820	C9,E7, E9, E13	F13			
1,000	E9				
1,500			F13		
2,700	F13				

(unit : mm)

Size code	φD ±0.5	L max	F	φd ±0.05
B9	5.0	9.0	2.0±0.5	0.6
C55	6.3	5.5	2.5±0.5	0.45
C6	6.3	6.0	2.5±0.5	0.45※3
C7	6.3	7.0	2.5±0.5	0.6
C9	6.3	9.0	2.5±0.5	0.6※4
E7	8.0	7.0	3.5±0.5	0.6
E9	8.0	9.0	3.5±0.5	0.6
E12	8.0	12.0	3.5±0.5	0.6
E13	8.0	13.0	3.5±0.5	0.6
F13	10.0	13.0	5.0±0.5	0.6

※3 2SEPC390M : 0.5±0.05
※4 16SEPC150MD,10SEPC270MD : 0.45±0.05

SEPC series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μF)	ESR (mΩ) (max) 100kHz to 300kHz/20℃	Rated ripple current 100kHz (mArms) at 105℃	DF (% max)	Leakage current (μA)(max) After 2 minutes
B9	2SEPC100MZ	2.5	100	7	4180	10	500
	2SEPC330MZ	2.5	330	7	4180	10	500
	2SEPC470MZ	2.5	470	7	4180	10	500
	2SEPC560MZ	2.5	560	7	4180	10	500
C55	6SEPC220M	6.3	220	18	2980	12	280
C6	16SEPC100M	16	100	24	2490	10	320
	2SEPC390M	2.5	390	10	3900	12	500
	2SEPC560M	2.5	560	10	3900	12	500
C7	6SEPC470ME	6.3	470	20	2970	10	592
C9	16SEPC100MW	16	100	10	4680	10	500
	6SEPC470MW	6.3	470	7	5600	10	592
	6SEPC560MW	6.3	560	7	5600	10	705
	4SEPC560MW	4.0	560	7	5600	10	500
	2SEPC330MW	2.5	330	7	5600	10	500
	2SEPC560MW	2.5	560	7	5600	10	500
	2SEPC820MW	2.5	820	7	5600	10	500
E7	16SEPC150MD	16	150	22	3220	12	500
	16SEPC220MD	16	220	13	4150	10	500
	10SEPC270MD	10	270	22	3220	12	500
	2SEPC820MD	2.5	820	8	5300	10	500
E9	16SEPC180MX	16	180	10	5000	10	576
	16SEPC270MX	16	270	10	5000	10	864
	6SEPC470MX	6.3	470	8	5700	10	592
	6SEPC560MX	6.3	560	7	6100	10	705
	4SEPC560MX	4.0	560	7	6100	10	500
	2SEPC560MX	2.5	560	8	4700	10	280
	2SEPC820MX	2.5	820	7	6100	10	500
	2SEPC820MY	2.5	820	5	7200	10	500
	2SEPC1000MX	2.5	1000	7	6100	10	500
E12	16SEPC180M	16	180	16	4360	10	576
	16SEPC270M	16	270	11	5000	10	864
E13	6SEPC470M	6.3	470	8	5700	10	592
	4SEPC560M	4.0	560	7	6100	10	500
	4SEPC680M	4.0	680	7	6100	10	544
	2R5SEPC820M	2.5	820	7	6100	10	500
F13	16SEPC470M	16	470	10	6100	10	1504
	6SEPC680M	6.3	680	7	6640	10	857
	6SEPC1500M	6.3	1500	10	5560	10	1890
	4SEPC820M	4.0	820	7	6640	10	656
	2SEPC2700M	2.5	2700	10	5560	10	1350

Frequency coefficient for ripple current

Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f ≤ 500kHz
Coefficient	0.05	0.3	0.7	1

※ Red letters : New models