

SVPE Series



Super low ESR
High capacitance

The SVPE series capacitor has lower ESR than SVPC series.
Adopt this series to reduce the size of equipment and circuits.
This product can support lead free-reflow.*2

SVPC →

SVPE
Super low ESR
High capacitance

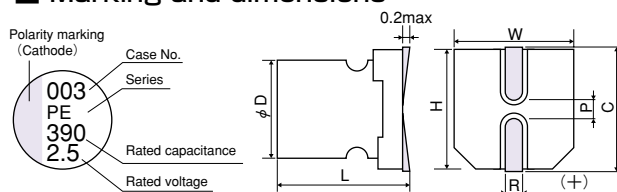
Specifications

Items	Condition	Specifications		
Rated voltage (V)	—	2.5	6.3	16
Surge voltage (V)	Room temperature	3.3	8.2	18
Category temperature range (°C)	—	-55 to +105		
Capacitance tolerance (%)	120Hz/20°C	M : ±20		
Dissipation Factor (DF)	120Hz/20°C	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/20°C	Please see the attached characteristics list		
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	ΔC/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°C, 90 to 95%RH, 1,000h, No-applied voltage	ΔC/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	VPS (230°C X 75s)	ΔC/C	Within ±10% of the initial value (±15% for 2.5V)	
		DF	Within 1.3 times of the initial limit	
		ESR	Within 1.3 times of the initial limit	
		LC	Within the initial limit (after voltage processing)	

*1 When measured values are questionable, measure after voltage processing mentioned below.
Voltage processing: Apply voltage for 120 minutes at 105°C.

*2 Please refer to page 12 for reflow soldering conditions.

Marking and dimensions



(unit : mm)

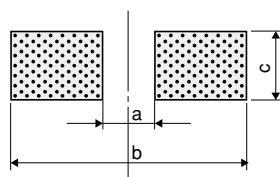
Size code	φD ±0.5	L ^{+0.1} _{-0.4}	W ±0.2	H ±0.2	C ±0.2	R	P ±0.2
B6	5.0	5.9	5.3	5.3	6.0	0.6 to 0.8	1.4
C6	6.3	5.9	6.6	6.6	7.3	0.6 to 0.8	2.1
C45	6.3	4.4	6.6	6.6	7.3	0.6 to 0.8	2.1
F12	10.0	12.6	10.3	10.3	11.0	0.8 to 1.1	4.6

SVPE series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μF)	ESR (mΩ) (max)		Rated ripple current 100kHz (mA) at 105°C	DF (% max)	Leakage current (μA)(max) After 2 minutes
				100kHz/20°C	300kHz/20°C*1			
B6	6SVPE180M	6.3	180	15	13	3150	12	500
	6SVPE150M	6.3	150	12	10	3520	12	500
	2R5SVPE330M	2.5	330	15	13	3150	12	500
	2R5SVPE270M	2.5	270	10	9	3860	12	500
C45	2R5SVPE330MX	2.5	330	16	15	3180	12	500
	6SVPE220MX	6.3	220	18	17	3000	12	500
C6	2R5SVPE390M	2.5	390	10	9	3900	12	500
	6SVPE220M	6.3	220	10	9	3900	12	500
F12	16SVPE470M	16	470	10	9	6100	12	1504

*1 The ESR value at 300kHz is a reference one.

Recommended land pattern dimension of PWB



Size code	a	b	c
B6	1.4	7.4	1.6
C45	2.1	9.1	1.6
C6	2.1	9.1	1.6
F12	4.3	13.1	1.9

Size list

μF \ RV	2.5	6.3	16
150		B6	
180		B6	
220		C45,C6	
270	B6		
330	B6,C45		
390	C6		
470			F12

Frequency coefficient for ripple current

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