Surface mount type SVPA Series

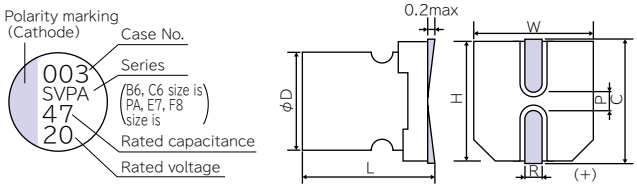
RoHS directive/Halogen-free compliant
Low ESR 18mΩ
High rated ripple current (4,240mArms)

Specifications

Items	Condition		Specifications					
Rated voltage (V)	–		2.5	4.0	6.3	10	16	20
Surge voltage (V)	Room temperature		3.3	5.2	8.2	12	18	23
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/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℃, 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℃, 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℃ X 75s)	ΔC/C	Within ±10% of the initial value					
		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 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105℃.
※2 Please refer to page 25 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	0.6~0.8	1.4
C6	6.3	5.9	6.6	6.6	7.3	0.6~0.8	2.1
E7	8.0	6.9	8.3	8.3	9.0	0.6~0.8	3.2
F8	10.0	7.9	10.3	10.3	11.0	0.6~0.8	4.6

Size list

RV : Rated voltage

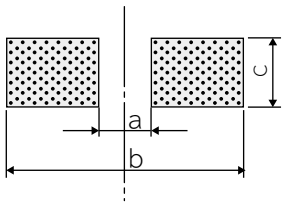
μF \ RV	2.5	4.0	6.3	10	16	20
10						B6
22						C6
39					C6	
47			B6			E7
68		B6		C6		
82	B6				E7	
120			C6			
150		C6		E7		
180	C6				F8	
220			E7			
270		E7				
330	E7			F8		
470			F8			
680		F8				
820	F8					

SVPA series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μF)	ESR (mΩ) (max)		Rated ripple current 100kHz (mArms) at 105℃	DF (% max)	Leakage current (μA)(max) After 2 minutes
				100kHz/20℃	300kHz/20℃※1			
B6	20SVPA10M	20	10	40	35	1700	12	80
	6SVPA47MAA	6.3	47	30	26	1970	12	300
	4SVPA68MAA	4.0	68	30	26	1970	12	300
	2R5SVPA82MAA	2.5	82	30	26	1970	12	300
C6	20SVPA22M	20	22	35	31	2040	12	88
	16SVPA39MAA	16	39	35	31	2040	12	300
	16SVPA39MAAY	16	39	24	20	2460	12	300
	10SVPA68MAA	10	68	30	26	2200	12	300
	6SVPA120MAA	6.3	120	22	19	2570	12	300
	4SVPA150MAA	4.0	150	22	19	2570	12	300
	2R5SVPA180MAA	2.5	180	20	18	2690	12	300
E7	20SVPA47M	20	47	33	29	2630	12	188
	16SVPA82MAA	16	82	30	25	2760	12	262
	10SVPA150MAA	10	150	30	25	2760	12	500
	6SVPA220MAA	6.3	220	22	19	3220	12	500
	4SVPA270MAA	4.0	270	22	19	3220	12	500
	2R5SVPA330MAA	2.5	330	20	18	3370	12	500
F8	16SVPA180M	16	180	29	28	3430	12	576
	10SVPA330M	10	330	24	23	3770	12	660
	6SVPA470M	6.3	470	20	19	4130	12	592
	4SVPA680M	4.0	680	20	19	4130	12	544
	2R5SVPA820M	2.5	820	19	18	4240	12	500

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

Recommended land pattern dimension of PWB



(unit : mm)

Size code	a	b	c
B6	1.4	7.4	1.6
C6	2.1	9.1	1.6
E7	2.8	11.1	1.9
F8	4.3	13.1	1.9

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