

## Surface Mount Type



Series : **SVP**



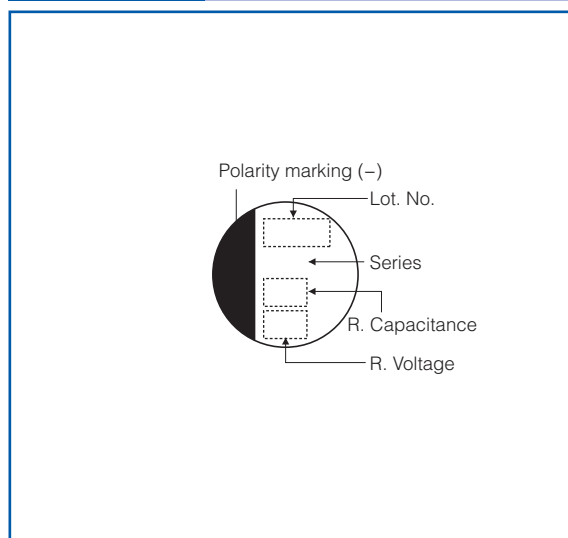
### Features

- Standard
- Wealth models
- RoHS compliance, Halogen free

### Specifications

Size code	A5	B6	C6	E7	F8	E12	F12
Category temperature range	-55 °C to +105 °C						
Rated voltage range	4 V.DC to 16 V.DC	4 V.DC to 20 V.DC	2.5 V.DC to 20 V.DC	4 V.DC to 20 V.DC		2.5 V.DC to 20 V.DC	
Rated capacitance range	3.3 μF to 33 μF	10 μF to 68 μF	22 μF to 220 μF	33 μF to 330 μF	56 μF to 680 μF	100 μF to 680 μF	150 μF to 1500 μF
Capacitance tolerance	±20 % (120 Hz / + 20 °C)						
Leakage current	Please see the attached characteristics list						
Dissipation factor (tan δ)	Please see the attached characteristics list						
Endurance	+105 °C, 2000 h, rated voltage applied						
	Capacitance change	Within ±20 % of the initial value					
	tan δ	≤ 150 % of the initial limit					
	DC leakage current	Within the initial limit					
Damp heat (Steady State)	+60 °C, 90 % to 95 %, 1000 h, No-applied voltage						
	Capacitance change	Within ±20 % of the initial value					
	tan δ	≤ 150 % of the initial limit					
	DC leakage current	Within the initial limit (after voltage processing)					

### Marking



### Dimensions (not to scale)

Unit : mm

Size code	φD±0.5	L <sup>+0.1</sup> <sub>-0.4</sub>	W±0.2	H±0.2	C±0.2	R	P±0.2
A5	4.0	5.4	4.3	4.3	5.0	0.6 to 0.8	1.0
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
E7	8.0	6.9	8.3	8.3	9.0	0.6 to 0.8	3.2
F8	10.0	7.9	10.3	10.3	11.0	0.6 to 0.8	4.6
E12	8.0	11.9	8.3	8.3	9.0	0.8 to 1.1	3.2
F12	10.0	12.6	10.3	10.3	11.0	0.8 to 1.1	4.6

\* Externals of figure are the reference.

## Characteristics list

Series	Rated voltage (V.DC)	Rated capacitance (μF)	Case size (mm)		Size code	Specifications				Standard (Reel size : φ380)	
			φD	L		Ripple current* <sup>1</sup> (mAr.m.s.)	ESR* <sup>2</sup> (mΩ max.)	tan δ* <sup>3</sup>	LC* <sup>4</sup> (μA)	Part number	Min. Packaging Qty (pcs)
SVP	2.5	220	6.3	5.9	C6	2390	23	0.12	110	2R5SVP220M	1000
		680	8.0	11.9	E12	4520	13	0.15	340	2R5SVP680M	400
		1500	10.0	12.6	F12	5440	12	0.18	750	2R5SVP1500M	400
	4.0	33	4.0	5.4	A5	740	200	0.15	66	4SVP33M	2000
		39	5.0	5.9	B6	1100	70	0.12	78	4SVP39M	1500
		68	5.0	5.9		1400	60	0.12	136	4SVP68M	1500
		150	6.3	5.9	C6	1810	40	0.12	120	4SVP150MX	1000
		330	8.0	6.9	E7	2560	35	0.12	264	4SVP330M	1000
		560	8.0	11.9	E12	4520	13	0.15	448	4SVP560M	400
		680	10.0	7.9	F8	3700	25	0.12	544	4SVP680M	500
		1200	10.0	12.6	F12	5440	12	0.18	960	4SVP1200M	400
	6.3	22	4.0	5.4	A5	740	200	0.12	69.3	6SVP22M	2000
		47	5.0	5.9	B6	1100	70	0.12	148	6SVP47M	1500
		82	6.3	5.9	C6	1700	45	0.12	103	6SVP82M	1000
		100	6.3	5.9		1810	40	0.12	126	6SVP100M	1000
		120	6.3	5.9		2780	17	0.12	151	6SVP120MV	1000
		220	8.0	6.9	E7	2560	35	0.12	277	6SVP220MX	1000
		330	10.0	7.9	F8	3700	25	0.12	277	6SVP220M	500
			10.0	7.9		3700	25	0.12	416	6SVP330M	500
		470	10.0	7.9	E12	3700	25	0.12	592	6SVP470MX	500
		8.0	11.9	4210		15	0.15	592	6SVP470M	400	
		820	10.0	12.6	F12	5440	12	0.15	775	6SVP820M	400
		10	4.7	4.0	5.4	A5	670	240	0.08	23.5	10SVP4R7M
	6.8		4.0	5.4	670		240	0.09	34	10SVP6R8M	2000
	10		4.0	5.4	700		220	0.10	50	10SVP10M	2000
	15		4.0	5.4	740		200	0.10	75	10SVP15M	2000
	33		5.0	5.9	B6	1100	70	0.12	165	10SVP33M	1500
	47		6.3	5.9	C6	1620	50	0.12	94	10SVP47M	1000
	56		6.3	5.9		1700	45	0.12	112	10SVP56M	1000
	120		8.0	6.9	E7	2560	35	0.12	240	10SVP120M	1000
	150		8.0	6.9	F8	2560	35	0.12	300	10SVP150MX	1000
			10.0	7.9		3020	30	0.12	300	10SVP150M	500
	270		10.0	7.9	E12	3700	25	0.12	540	10SVP270M	500
	330		10.0	7.9		3700	25	0.12	660	10SVP330MX	500
	8.0		11.9	3950	17	0.15	660	10SVP330M	400		
	560		10.0	12.6	F12	5230	13	0.15	840	10SVP560M	400
	16	3.3	4.0	5.4	A5	660	260	0.07	26.4	16SVP3R3M	2000
		15	5.0	5.9	B6	1020	120	0.10	120	16SVP15M	1500
		22	5.0	5.9		1060	90	0.10	176	16SVP22M	1500
		39	6.3	5.9	C6	1620	50	0.10	125	16SVP39M	1000
		56	8.0	6.9	E7	1890	45	0.12	179	16SVP56M	1000
		82	8.0	6.9		2120	40	0.12	262	16SVP82M	1000
100		10.0	7.9	F8	2670	35	0.12	320	16SVP100M	500	
150		10.0	7.9		3020	30	0.12	480	16SVP150M	500	
180		10.0	7.9	E12	3020	30	0.12	576	16SVP180MX	500	
		8.0	11.9		3640	20	0.15	576	16SVP180M	400	
330		10.0	12.6	F12	4720	16	0.15	792	16SVP330M	400	
20		10	5.0	5.9	B6	1020	120	0.10	100	20SVP10M	1500
	22	6.3	5.9	C6	1450	60	0.10	88	20SVP22M	1000	
	27	6.3	5.9		1450	60	0.10	108	20SVP27M	1000	
	33	8.0	6.9	E7	1890	45	0.12	132	20SVP33M	1000	
	47	8.0	6.9		1890	45	0.12	188	20SVP47M	1000	
	56	10.0	7.9	F8	2400	40	0.12	224	20SVP56M	500	
	68	10.0	7.9		2400	40	0.12	272	20SVP68M	500	
	100	8.0	11.9	E12	3320	24	0.15	400	20SVP100M	400	
150	10.0	12.6	F12	4320	20	0.15	600	20SVP150M	400		

\*1 Ripple current (100 kHz/ +105 °C), \*2 ESR (100 kHz to 300 kHz/+20 °C) \*3 tan δ (120 Hz/+20 °C) \*4 After 2 minutes  
 ◆ Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".

## Frequency correction factor for ripple current

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

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