

Surface mount type

# SVVPF Series Up Grade

RoHS compliance

High voltage

High capacitance

This is the high voltage type capacitors of SVPC series. Please use them in a high voltage line, for example, input of DCDC converter.

This product can support lead free-reflow.※2



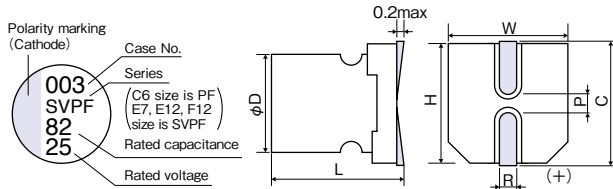
## Specifications

Items	Condition	Specifications		
Rated voltage (V)	-	16	20	25
Surge voltage (V)	Room temperature	18	23	29
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 to 300kHz/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 <sub>20°C</sub>	0.75 to 1.25
		+105°C	Z/Z <sub>20°C</sub>	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
		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 14 for reflow soldering conditions.

## Marking and dimensions



(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
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
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

## Size list

RV : Rated voltage

RV	16	20	25
μF			
47			C6
56			C6
82			E7
120		C6	
180	C6	E7	E12
270	E7		
330			F12
390		E12	
560	E12	F12	
1000	F12		

SVVPF

OS-CON

OS-CON Line-up

Guidelines and precautions for use

Series system diagram

Image of case size

Products list

Packing specifications (SMD type)

Packing specifications (Radial lead type)

Fundamental structure

Characteristics

Reliability

Selection guide

Technical data

SVVPF

SVPE

SVPS

SVPD

SVPC

SVPB

SVPA

SVQP

SVP

SEPF

SEPC

SEQP

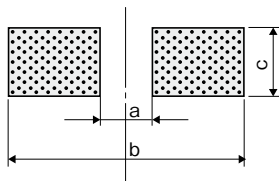
SEP

Conductive polymer type

■ SVPF series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μF)	ESR(mΩ) (max) 100kHz to 300kHz / 20℃	Allowable ripple current 100kHz(mArms)	DF (% max)	Leakage current (μA)(max) After 2 minutes
C6	25SVPF47M	25	47	30	2800	12	235
	25SVPF56M	25	56	30	2800	12	280
	20SVPF120M	20	120	25	3200	12	480
	16SVPF180M	16	180	22	3300	12	576
E7	25SVPF82M	25	82	28	3000	12	410
	20SVPF180M	20	180	25	3200	12	720
	16SVPF270M	16	270	22	3300	12	864
E12	25SVPF180M	25	180	16	4650	12	900
	20SVPF390M	20	390	14	4950	12	1560
	16SVPF560M	16	560	14	4950	12	1792
F12	25SVPF330M	25	330	14	5000	12	1650
	20SVPF560M	20	560	12	5400	12	2240
	16SVPF1000M	16	1000	12	5400	12	3200

■ Recommended land pattern dimension of PWB



(unit : mm)

Size code	a	b	c
C6	2.1	9.1	1.6
E7	2.8	11.1	1.9
E12	2.8	11.1	1.9
F12	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