

# SVPB Series

Low profile

This is a low profile series based on the SVPA series. Suitable for miniaturizing devices and circuits.  
This product can support lead free-reflow(※2).



## Specifications

Items	Conditions	Characteristics		
Category temperature range	—	-55°C to +105°C		
Tolerance on rated capacitance	120Hz	M :±20%		
Tangent of loss angle	120Hz	Less than or equal to the value of Table5		
Leakage current ※1	After 2 minutes	Less than or equal to the value of Table5		
ESR	100KHz to 300KHz	Less than or equal to the value of Table5		
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, 1,000h, Rated voltage applied	ΔC/C	Within ±20% (±30% for C5 size)	
		tanδ	1.5 times or less than an initial standard	
		ESR	1.5 times or less than an initial standard	
		Leakage current	Below an initial standard	
Damp heat (Steady state)	60°C, 90 to 95% RH, 1,000h, No-applied voltage	ΔC/C	Within ±20%	
		tanδ	1.5 times or less than an initial standard	
		ESR	1.5 times or less than an initial standard	
		Leakage current	Below an initial standard (after voltage processing)	
Resistance to soldering heat ※2	VPS (230°C X 75s)	ΔC/C	Within ±10% (±20% for C5 size)	
		tanδ	1.3 times or less than an initial standard	
		ESR	1.3 times or less than an initial standard	
		Leakage current	Below an initial standard (after voltage processing)	

※1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C.

※2 Refer to Page 14 for reflow soldering conditions.

## Marking and dimensions

Polarity marking (Cathode)

Case No.  
003  
Series (PB)  
PB  
Rated capacitance  
56  
Rated voltage  
10

(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
C5	6.3	4.9	6.6	6.6	7.3	0.6 to 0.8	2.1
C55	6.3	5.4	6.6	6.6	7.3	0.6 to 0.8	2.1

## Size List

RV : Rated voltage (SV) : Surge voltage (Room temperature)

μF	RV (SV)	2.5 (3.3)	4.0 (5.2)	6.3 (8.2)	10.0 (12)	16.0 (18.4)	20.0 (23.0)
15							C5
22							C55
33						C5	
56					C5		
82				C5			
100		C5					
120	C5						

※For the minimum packing quantity, please refer to page 57.

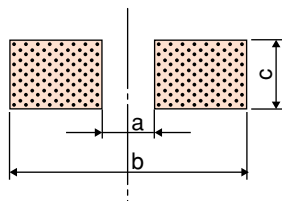
## Table5 SVPB Series Characteristics List

Size Code	Part Number	Rated voltage (V)	Rated capacitance ( $\mu\text{F}$ )	ESR 100kHz to 300kHz ( $\text{m}\Omega$ ) (max.)	Rated ripple current 100kHz (mA <sub>rms</sub> ) at 105°C	Tangent of loss angle (max.)	Leakage current ( $\mu\text{A}$ ) (max.) <sup>※1</sup>
C5	20SVPB15M	20	15	45	2000	0.12	120
	16SVPB33M	16	33	40	1670	0.12	211
	10SVPB56M	10	56	40	1670	0.12	224
	6SVPB82M	6.3	82	40	1670	0.12	207
	4SVPB100M	4	100	40	1670	0.12	160
	2R5SVPB120M	2.5	120	40	1670	0.12	120
C55	20SVPB22M	20	22	35	2000	0.12	88

※1 After 2 minutes

- The C5 size is also available upon request as a radial lead type. Please contact us if this type is required. Maximum height for radial lead types is 4.5 mm.
- The C55 size is also available upon request as 4V and 6.3V products.

## Recommended land pattern dimension of PWB



(unit : mm)

Size Code	a	b	c
C5	2.1	9.1	1.6
C55	2.1	9.1	1.6

Frequency coefficient for ripple current

Frequency	$120\text{Hz} \leq f < 1\text{kHz}$	$1\text{kHz} \leq f < 10\text{kHz}$	$10\text{kHz} \leq f < 100\text{kHz}$	$100\text{kHz} \leq f \leq 500\text{kHz}$
Coefficient	0.05	0.3	0.7	1