

**Vertical Surface Mounting Devices
New Products**

New SV Series is designed for use in high frequency noise limiters and switching power supplies for miniaturization ; compatible with Aluminum electrolytic capacitors of Vertical chip.

**New SV
Series**



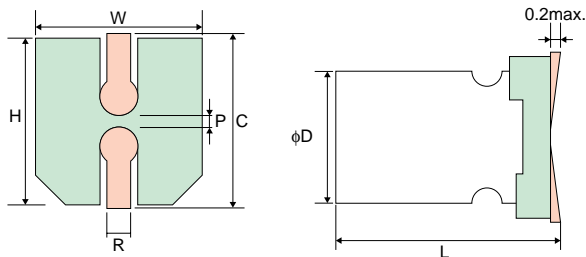
Marking (Purple) : Polarity(⊖), Rated voltage, Capacitance, Lot.No.

Specifications

Items	Characteristics		
1. Operating temperature range	-55°C to +105°C		
2. Capacitance tolerance (120Hz)	M : ±20%		
3. Tangent of loss angle(tanδ) (120Hz)	Value in Table 8 or less		
4. Leakage current (μA/2min.)(or less) *1	0.2CV		
5. ESR (100k to 300kHz)	Value in Table 8 or less		
6. Temperature characteristics Impedance ratio at 100kHz., +20°C	-55°C	Z / Z20°C	1.0 to 1.25
	+105°C	Z / Z20°C	0.75 to 1.0
7. High-temperature load 105°C, 1,000Hrs. Rated voltage applied *2 (25WV→20V applied)	ΔC/C	A5, B5, C6 size	Within ±30%
		E7, F8, F12 size	Within ±20%
	tanδ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	
8. Moisture resistance (60°C, 90 to 95%RH, 500Hrs. no voltage)	ΔC/C	Within ±20%	
	tanδ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	
9. Reverse voltage guarantee	Temporary:less than 20% of the rated voltage, Continuous:less than 10% of the rated voltage		
10.Solder heat resistance (Hot plate soldering method) (240°C X 30sec.) *3	ΔC/C	Within ±10%	
	tanδ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	

- *1 If any doubt arises, measure the current after applying voltage (voltage treatment) for 120 minutes at 105°C. The rated voltage should be applied for 2.0 to 20WV, while a temperature reduction voltage should be applied for 25WV.
- *2 To use an OS-CON when the operating temperature exceeds 85°C on a component with a rated voltage of 25V, reduce the voltage by 0.25V for every degree (1°C) relative to the value at 85°C (25V).
- *3 Reflow soldering may bring about change of nominal capacitance. Refer to SANYO about soldering spec.

Dimensions



(unit : mm)

Size Code	φD+0.5max.	L+0.1-0.4	W±0.2	H±0.2	C±0.2	R	P±0.2
A5	4.0	5.4	4.3	4.3	5.0	0.5 to 0.8	1.0
B6	5.0	5.9	5.3	5.3	6.0	0.5 to 0.8	1.4
C6	6.3	5.9	6.6	6.6	7.3	0.5 to 0.8	2.1
E7	8.0	6.9	8.3	8.3	9.0	0.5 to 0.8	3.2
F8	10.0	7.9	10.3	10.3	11.0	0.5 to 0.8	4.6
F12	10.0	12.6	10.3	10.3	11.0	0.8 to 1.1	4.6

Size List

WV : Rated voltage
(SV) : Surge voltage(room temperature)

μF \ WV (SV)	2.0 (2.6)	4.0 (5.2)	6.3 (8.2)	10 (11.5)	16 (18.4)	20 (23)	25 (25)
3.3					A5		
4.7				A5			
6.8				A5			
10				A5		B6	E7
15			A5		B6		
22		A5		B6		C6	F8
27					C6		
33			B6				
39		B6					
47				C6		E7	F12
56			C6		E7		
68					F8		
82		C6		E7			
100					F8		
120			E7				
150		E7		F8		F12	
220			F8		F12		
270		F8					
330				F12			
470			F12				
680		F12					
820	F12						

Table 8 New SV Series Characteristics List

Size Code	Part Number *1	Rated Voltage (V)	Nominal Capacitance (μF)	ESR (100kHz to 300kHz) (mΩ) (max.)	Maximum allowable ripple current (mA rms)*2	Tangent of loss angle (max.)	Leakage current (μA) (max.)*3
A5	16SV3R3MN	16	3.3	400	500	0.07	10.6
	10SV4R7MN	10	4.7	400	540	0.08	9.4
	10SV6R8MN	10	6.8	400	540	0.09	13.6
	10SV10MN	10	10	350	560	0.10	20.0
	6SV15MN	6.3	15	350	560	0.12	18.9
	4SV22MN	4	22	350	560	0.15	17.6
B6	20SV10M	20	10	220	600	0.10	40.0
	16SV15M	16	15	200	650	0.10	48.0
	10SV22M	10	22	180	700	0.15	44.0
	6SV33M	6.3	33	140	750	0.15	42.0
	4SV39M	4	39	120	780	0.15	31.0
C6	20SV22M	20	22	80	1050	0.10	88.0
	16SV27M	16	27	80	1100	0.10	86.0
	10SV47M	10	47	70	1150	0.15	94.0
	6SV56M	6.3	56	70	1200	0.15	71.0
	4SV82M	4	82	65	1250	0.15	66.0
E7	25SV10M	25	10	60	1400	0.12	50.0
	20SV47M	20	47	60	1450	0.12	188.0
	16SV56M	16	56	60	1500	0.12	179.0
	10SV82M	10	82	55	1550	0.15	164.0
	6SV120M	6.3	120	50	1600	0.15	151.0
	4SV150M	4	150	50	1700	0.15	120.0
F8	25SV22M	25	22	50	1800	0.12	110.0
	20SV68M	20	68	45	2000	0.12	272.0
	16SV100M	16	100	45	2200	0.12	320.0
	10SV150M	10	150	40	2400	0.15	300.0
	6SV220M	6.3	220	40	2700	0.15	277.0
	4SV270M	4	270	40	2800	0.15	216.0
F12	25SV47M	25	47	25	3500	0.10	235.0
	20SV150M	20	150	20	3600	0.10	600.0
	16SV220M	16	220	18	3700	0.12	704.0
	10SV330M	10	330	16	3800	0.15	660.0
	6SV470M	6.3	470	15	4000	0.15	592.0
	4SV680M	4	680	13	4200	0.15	544.0
	2SV820M	2	820	12	4400	0.15	328.0

*1 Capacitance tolerance : M ; ±20%

*2 100kHz, +45°C

*3 After 2 minutes

Temperature coefficient for ripple current

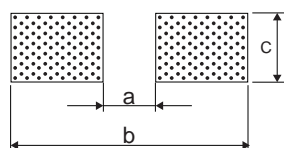
Ambient Temp.(°C)	to +45	+65	+85	+95	+105
Coefficient	1.0	0.85	0.7	0.4	0.25

Note:

Former SV series appeared in the OS-CON technical book version 5.2 has been integrated into New SV series, size A5. Please order it as New SV series. Additionally, part numbers of New SV series, size A5 have "N" in the end to distinguish themselves from former SV series.

Recommended land pattern dimension of PWB

(unit : mm)



Code	Size Code					
	A5	B6	C6	E7	F8	F12
a	1.0	1.4	2.1	2.8	4.3	4.3
b	6.2	7.4	9.1	11.1	13.1	13.1
c	1.6	1.6	1.6	1.9	1.9	1.9

*New SV series is a new product. Therefore, the specification, dimension may be changed.