New SV Series

Vertical Surface Mounting Devices
New Products

The OS-CON of wertical chip planed for larger capacitance and lower ESR than those of the present, besides improved reflow condition.

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

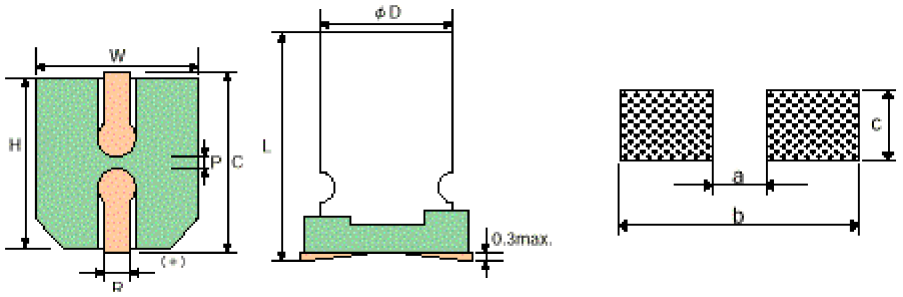
Specifications

	Items	Characteristics		
1	Operating temperature range	- 55degrees C ~ +105degrees C		
2	Capacitance tolerance(120Hz)	M: ±20%		
3	Tangent of loss angle(120Hz)	Value in Table 11 or less		
4	Leakage current(uAmax./2min.) (or less) ※1	0.2CV		
5	ESR(100k ~ 300kHz)	Value in Table 11 or less		
6	Temperature characteristics Impedance ratio at 100kHz, +20degrees C	-55degrees C	Z/Z 20degrees C	1.0 ~ 1.25
		+105degrees C	Z/Z 20degrees C	0.75 ~ 1.0
7	High-temperature load 105degrees C, 1000Hrs. Rated voltage applied, ※2 25WV->20V applied	△C/C	A5,B6,C6 size	Within ±30%
			E7,F8,F12 size	Within ±20%
		Tangent of loss angle	1.5 times of Item 3 or less	
		Leakage current	Item 4 or less	
8	Moisture resistance (60degrees C, 90• `95%RH, 500Hrs. no voltage)	△C/C	Within ±20%	
		Tangent of loss angle	1.5 times of Item 3 or less	
		Leakage current	Item 4 or less after voltage treatment	
9	Reverse voltage guarantee	Temporary:less than 20% of the rated voltage, Continuous:less than 10% of the rated voltage.		
10	• ESolder heat resistance • EHot plate soldering method • EPreheat (150degrees C*120sec+235 ±5degrees C• ~30 ±1sec) ※3	△C/C	Within ±10%	
		Tangent of loss angle	1.5 times of Item 3 or less	
		Leakage current	Item 4 or less after voltage treatment	

※1	If any doubt arises measure the current after applying voltage(voltage treatment) for 120 minutes at 105degrees 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 85degrees C on a component with a rated voltage of 25V, reduce the voltage by 0.25V for every degree (1degrees C) relative to the value at 85degrees C(25VC).
※3	Reflow soldering may bring about change of nominal capacitance. Refer to "Recommendable reflow condition of SMD type" for soldering specifications.

Dimensions



Size Code	φD*0.5max.	L +0.1 -0.4	W ±0.2	H ±0.2	C ±0.2	R	P ±0.2
A5	4.0mm	5.4mm	4.3mm	4.3mm	5.0mm	0.5 ±0.8mm	1.0mm
B5	5.0mm	5.9mm	5.3mm	5.3mm	6.0mm	0.5 ±0.8mm	1.4mm
C6	6.3mm	5.9mm	6.6mm	6.6mm	7.3mm	0.5 ±0.8mm	2.1mm
E7	8.0mm	6.9mm	8.3mm	8.3mm	9.0mm	0.5 ±0.8mm	3.2mm
F8	10.0mm	7.9mm	10.3mm	10.3mm	11.0mm	0.5 ±0.8mm	4.6mm
F12	10.0mm	12.6mm	10.3mm	10.3mm	11.0mm	0.5 ±0.8mm	4.6mm

Recommended land pattern dimension

Code	Size Code					
	A5	**B6**	**C6**	**E7**	**F8**	**F12**
,•	1.0mm	1.4mm	2.1mm	2.8mm	4.3mm	4.3mm
,,	6.2mm	7.4mm	9.1mm	11.1mm	13.1mm	13.1mm
,f	1.6mm	1.6mm	1.6mm	1.9mm	1.9mm	1.9mm

Size List

WV(SV) uF	2.0WV	4.0WV	6.3WV	10WV	16WV	20WV	25WV
3.3uF	-	-	-	-	**A5**	-	-
4.7uF	-	-	-	**A5**	-	-	-
6.8uF	-	-	-	**A5**	-	-	-
10uF	-	-	-	**A5**	-	**B6**	**E7**
15uF	-	-	**A5**	-	**B6**	-	-

22uF	-	**A5**	-	**B6**	-	**C6**	**F8**
27uF	-	-	-	-	**C6**	-	-
33uF	-	-	**B6**	-	-	-	-
39uF	-	**B6**	-	-	-	-	-
47uF	-	-	-	**C6**	-	**E7**	**F12**
56uF	-	-	**C6**	-	**E7**	-	-
68uF	-	-	-	-	-	**F8**	-
82uF	-	**C6**	-	**E7**	-	-	-
100uF	-	-	-	-	**F8**	-	-
120uF	-	-	**E7**	-	-	-	-
150uF	-	**E7**	-	**F8**	-	**F12**	-
220uF	-	-	**F8**	-	**F12**	-	-
270uF	-	**F8**	-	-	-	-	-
330uF	-	-	-	**F12**	-	-	-
470uF	-	-	**F12**	-	-	-	-
680uF	-	**F12**	-	-	-	-	-
820uF	• ¦**F12**	-	-	-	-	-	-

• @	The model shown by ※ is currently under development.

Table 11 NewSV series Characteristics List

Temperature coefficient for ripple current					
Ambient Temp. (degrees C)	T≦45	45<T≦65	65<T≦85	85<T≦95	95<T≦105
Coefficient	1.0	0.85	0.7	0.4	0.25

Size Code	Part Number ※1	Rated voltage (V)	Nominal Capacitance (uF)	ESR 100kHz ~ 300kHz (mohm)(max.)	Allowable ripple current (mArms) ※2	Tangent of loss angle (max.)	Leakage current (uA)(max.) ※3
A5	16SV3R3M	16	3.3	400	500	0.10	10.6
	10SV4R7M	10	4.7	400	540	0.15	9.4
	10SV6R8M	10	6.8	400	540	0.15	13.6
	10SV10M	10	10	350	560	0.15	20.0
	6SV15M	6.3	15	350	560	0.15	18.9
	4SV22M	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
	20SV22M	20	22	80	1050	0.10	88.0

C6	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	40	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	26	3500	0.10	235.0
	20SV150M	20	150	24	3600	0.10	600.0
	16SV220M	16	220	22	3700	0.12	704.0
	10SV330M	10	330	20	3800	0.15	660.0
	6SV470M	6.3	470	19	4000	0.15	592.0
	4SV680M	4	680	18	4200	0.15	544.0
	• ¦2SV820M	2	820	17	4400	0.15	328.0

※1	Capacitance tolerance:M; ±20%
※2	100kHz,+45degrees C
※3	After 2 minutes

Notes:

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