Solid Aluminum Capacitors

With Organic Semiconductor Electrolyte, Surface Mount

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.

SPECIFICATIONS

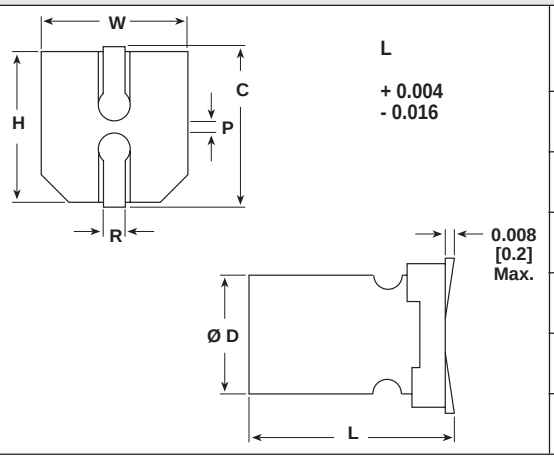
ITEMS	CHARACTERISTICS		
1. Operating temperature range	- 55°C to + 105°C		
2. Capacitance tolerance (120Hz)	M: ± 20%		
3. Tangent of loss angle (tanδ) (120Hz)	Value in Table 8 or less		
4. Leakage current (μA/2 min.)(or less)*1	0.2CV		
5. ESR (100k to 100kHz)	Value in Table 8 or less		
6. Temperature characteristics	- 55°C	$Z/Z_{20°C}$	1.0 to 1.25
Impedance ratio at 100kHz., + 20°C	+ 105°C	$Z/Z_{20°C}$	0.75 to 1.0
7. High-temperature load 105°C, 1000 hrs. Rated voltage applied *2 (25WV → 20V applied)	ΔC/C	A5, B5, C6 size	Within ± 30%
		E7, F8, F12 size	Within ± 20%
	tan δ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	
8. Moisture resistance (60°C, 90 to 95%RH, 500 hrs. no voltage)	ΔC/C	Within ± 20%	
	tan δ	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 30 sec.) *3	ΔC/C	Within ± 10%	
	tan δ	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 exceedes 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. Do not exceed peak temperature/time.

DIMENSIONAL CONFIGURATIONS [Numbers in brackets indicate millimeters]



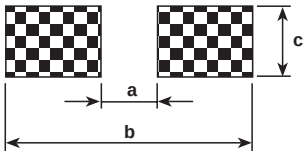
SIZE CODE	Ø D + 0.020 [0.5] Max.	L + 0.004 - 0.016 [+ 0.1- 0.4]	W ± 0.008 [± 0.2]	H ± 0.008 [± 0.2]	C ± 0.008 [± 0.2]	R	P ± 0.008 [± 0.2]
A5	0.158 [4.0]	0.213 [5.4]	0.169 [4.3]	0.169 [4.3]	0.197 [5.0]	0.020 to 0.031 [0.5 to 0.8]	0.040 [1.0]
B6	0.197 [5.0]	0.232 [5.9]	0.209 [5.3]	0.209 [5.3]	0.236 [6.0]	0.020 to 0.031 [0.5 to 0.8]	0.055 [1.4]
C6	0.248 [6.3]	0.232 [5.9]	0.260 [6.6]	0.260 [6.6]	0.268 [7.3]	0.020 to 0.031 [0.5 to 0.8]	0.083 [2.1]
E7	0.315 [8.0]	0.272 [6.9]	0.327 [8.3]	0.327 [8.3]	0.354 [9.0]	0.020 to 0.031 [0.5 to 0.8]	0.126 [3.2]
F8	0.394 [10.0]	0.311 [7.9]	0.406 [10.3]	0.406 [10.3]	0.433 [11.0]	0.020 to 0.031 [0.5 to 0.8]	0.181 [4.6]
F12	0.394 [10.0]	0.496 [12.6]	0.406 [10.3]	0.406 [10.3]	0.433 [11.0]	0.031 to 0.043 [0.8 to 1.1]	0.181 [4.6]

SIZE LIST

(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						

*WV = Rated Voltage.
**(SV) = Surge Voltage (room temperature).

RECOMMENDED LAND PATTERN DIMENSION OF PWB [Numbers in brackets indicate millimeters]



CODE	SIZE CODE					
	A5	B6	C6	E7	F8	F12
a	0.040 [1.0]	0.055 [1.4]	0.083 [2.1]	0.110 [2.8]	0.169 [4.3]	0.169 [4.3]
b	0.244 [6.2]	0.291 [7.4]	0.358 [9.1]	0.437 [11.1]	0.516 [13.1]	0.516 [13.1]
c	0.063 [1.6]	0.063 [1.6]	0.063 [1.6]	0.075 [1.9]	0.075 [1.9]	0.075 [1.9]

NOTE: New SV Series is a new product. Therefore, the specification, dimension may be changed.

TEMPERATURE COEFFICIENT FOR RIPPLE CURRENT

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

TABLE 8 - NEW SV SERIES CHARACTER LIST

SIZE CODE	PART NUMBER *1	RATED VOLTAGE (V)	NOMINAL CAPACITANCE (μF)	ESR (100kHz to 300kHz) (mΩ) (Max.)	MAXIMUM ALLOWABLE RIPPLE CURRENT (mArms) *2	TANGENT OF LOSS ANGLE (Max.)	LEAKAGE CURRENT (μA) (Max.) *3
A5	94SV335X0016A	16	3.3	400	500	0.07	10.6
	94SV475X0010A	10	4.7	400	540	0.08	9.4
	94SV685X0010A	10	6.8	400	540	0.09	13.6
	94SV106X0010A	10	10	350	560	0.10	20.0
	94SV156X06R3A	6.3	15	350	560	0.12	18.9
	94SV226X0004A	4	22	350	560	0.15	17.6
B6	94SV106X0020B	20	10	220	600	0.10	40.0
	94SV156X0016B	16	15	200	650	0.10	48.0
	94SV226X0010B	10	22	180	700	0.15	44.0
	94SV336X06R3B	6.3	33	140	750	0.15	42.0
	94SV396X0004B	4	39	120	780	0.15	31.0
C6	94SV226X0020C	20	22	80	1050	0.10	88.0
	94SV276X0016C	16	27	80	1100	0.10	86.0
	94SV476X0010C	10	47	70	1150	0.15	94.0
	94SV566X06R3C	6.3	56	70	1200	0.15	71.0
	94SV826X004C	4	82	65	1250	0.15	66.0
E7	94SV106X0025E	25	10	60	1400	0.12	50.0
	94SV476X0020E	20	47	60	1450	0.12	188.0
	94SV566X0016E	16	56	60	1500	0.12	179.0
	94SV826X0010E	10	82	55	1550	0.15	164.0
	94SV127X06R3E	6.3	120	50	1600	0.15	151.0
	94SV157X0004E	4	150	50	1700	0.15	120.0
F8	94SV226X0025F	25	22	50	1800	0.12	110.0
	94SV686X0020F	20	68	45	2000	0.12	272.0
	94SV107X0016F	16	100	45	2200	0.12	320.0
	94SV157X0010F	10	150	40	2400	0.15	300.0
	94SV227X06R3F	6.3	220	40	2700	0.15	277.0
	94SV277X0004F	4	270	40	2800	0.15	216.0
F12	94SV476X0025F	25	47	25	3500	0.10	235.0
	94SV157X0020F	20	150	20	3600	0.10	600.0
	94SV227X0016F	16	220	18	3700	0.12	704.0
	94SV337X0010F	10	330	16	3800	0.15	660.0
	94SV477X06R3F	6.3	470	15	4000	0.15	592.0
	94SV687X0004F	4	680	13	4200	0.15	544.0
	94SV827X0002F	2	820	12	4400	0.15	328.0

*1. Capacitance tolerance: M; ± 20%
*2. 100kHz, + 45°C
*3. After 2 minutes