



• Specifications

Items	Characteristics	
Temperature range	-55 to +105°C	
Rated voltage range	2.5 to 25Vdc	
Capacitance range	6.8 to 1,500μF	
Capacitance tolerance	±20% [M] (at 20°C, 120Hz)	
Tangent of loss angle	Less than or equal to the value of Standard Ratings (at 20°C, 120Hz)	
Leakage current	Less than or equal to the value of Standard Ratings (at 20°C, after 2 minutes)	
ESR	Less than or equal to the value of Standard Ratings	
Characteristics of impedance	$Z_{+105^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25, Z_{-55^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25$ at 100kHz	
Endurance	105°C, 2,000 hrs at rated voltage	
	Appearance	No significant damage
	Capacitance change	Within±20% of the initial value
	Tangent of loss angle (tanδ)	≤150% of the initial specified value
	ESR(mΩ)	≤150% of the initial specified value
	Leakage current	≤The initial specified value
Damp Heat (Steady State)	60°C, 90 to 95% RH, 1,000 hrs, No-applied Voltage	
	Appearance	No significant damage
	Capacitance change	Within±20% of the initial value
	Tangent of loss angle (tanδ)	≤150% of the initial specified value
	ESR(mΩ)	≤150% of the initial specified value
	Leakage current	≤The initial specified value
Resistance to soldering heat	VPS (230°C, 75s)	
	Appearance	No significant damage
	Capacitance change	Within±10% of the initial value
	Tangent of loss angle (tanδ)	≤130% of the initial specified value
	ESR(mΩ)	≤130% of the initial specified value
	Leakage current	≤The initial specified value

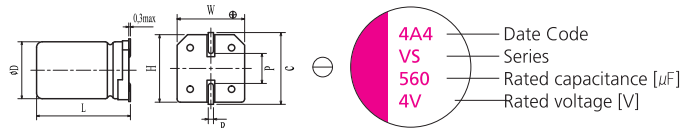
*In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C

• Size List

(unit: mm)

μF	RV (SV)	2.5 (2.9)	4 (4.6)	6.3 (7.2)	10 (11.5)	16 (18.4)	20 (23.0)	25 (28.7)
6.8								6.3×5.9
10							5×5.9	8×6.9
15						5×5.9		
22						5×5.9	6.3×5.9	10×7.9
27							6.3×5.9	
33					5×5.9		8×6.9	8×11.9
39		5×5.9				6.3×5.9		
47			5×5.9	6.3×5.9	6.3×5.9	8×6.9		
56				6.3×5.9	8×6.9	10×7.9		10×12.6
68		5×5.9					10×7.9	
82				6.3×5.9		8×6.9		
100				6.3×5.9		10×7.9	8×11.9	8×11.9
120				6.3×5.9	8×6.9			
150		6.3×5.9			8×6.9 10×7.9	10×7.9	10×12.6	10×12.6
180						8×11.9 10×7.9		
220	6.3×5.9			8×6.9 10×7.9				
270					10×7.9			
330		8×6.9	10×7.9	8×11.9 10×7.9	10×12.6			
470	8×6.9			8×11.9 10×7.9	10×12.6			
560		8×11.9						
680	8×11.9	10×7.9						
820				10×12.6				
1000				10×12.6				
1200		10×12.6						
1500	10×12.6							

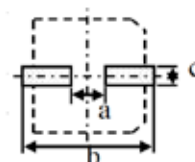
• Marking and Dimensions



(unit: mm)

Size	∅D±0.5	L+0.1 -0.4	W±0.2	H±0.2	C±0.2	R	P±0.2
5×5.9	5.0	5.9	5.3	5.3	6.0	0.6~0.8	1.4
6.3×5.9	6.3	5.9	6.6	6.6	7.3	0.6~0.8	2.1
8×6.9	8.0	6.9	8.3	8.3	9.0	0.6~0.8	3.2
10×7.9	10.0	7.9	10.3	10.3	11.0	0.6~0.8	4.6
8×11.9	8.0	11.9	8.3	8.3	9.0	0.8~1.1	3.2
10×12.6	10.0	12.6	10.3	10.3	11.0	0.8~1.1	4.6

• Recommended Land Pattern Dimension of PCB



(unit: mm)

Size	a	b	c
5×5.9	1.4	7.4	1.6
6.3×5.9	2.1	9.1	1.6
8×6.9	2.8	11.1	1.9
10×7.9	4.3	13.1	1.9
8×11.9	2.8	11.1	1.9
10×12.6	4.3	13.1	1.9

• Standard Ratings

Rated Voltage [Vdc]	Rated Capacitance [µF]	Size ØD x L [mm]	ESR (20°C, 100kHz) [mΩ] [max.]	Rated Ripple Current (105°C, 100kHz) [mA rms]	Tangent of Loss Angel [max]	Leakage Current [µA, max]	Part Number
2.5	220	6.3 x 5.9	23	2390	0.1	110	2VS220MC6
	470	8 x 6.9	23	3300	0.1	235	2VS470MD7
	680	8 x 11.9	13	4520	0.1	340	2VS680MD12
	1500	10 x 12.6	12	5440	0.1	750	2VS1500ME12
4	39	5 x 5.9	70	1100	0.1	78	4VS39MB6
	68	5 x 5.9	60	1400	0.1	136	4VS68MB6
	150	6.3 x 5.9	40	1810	0.1	120	4VS150MC6
	330	8 x 6.9	35	2560	0.1	264	4VS330MD7
	560	8 x 11.9	13	4520	0.1	448	4VS560MD12
	680	10 x 7.9	25	3700	0.1	544	4VS680ME8
	1200	10 x 12.6	12	5440	0.1	960	4VS1200ME12
	47	5 x 5.9	70	1100	0.1	148	6VS47MB6
6.3	82	6.3 x 5.9	45	1700	0.1	103	6VS82MC6
	100	6.3 x 5.9	40	1810	0.1	126	6VS100MC6
	120	6.3 x 5.9	40	1810	0.1	151	6VS120MC6
	220	8 x 6.9	35	2560	0.1	277	6VS220MD7
	220	10 x 7.9	25	3700	0.1	277	6VS220ME8
	330	10 x 7.9	25	3700	0.1	416	6VS330ME8
	470	10 x 7.9	25	3700	0.1	592	6VS470ME8
	470	8 x 11.9	15	4210	0.1	592	6VS470MD12
	820	10 x 12.6	12	5440	0.1	1033	6VS820ME12
	1000	10 x 12.6	12	5440	0.1	1260	6VS1000ME12
10	33	5 x 5.9	70	1100	0.1	165	10VS33MB6
	47	6.3 x 5.9	50	1620	0.1	94	10VS47MC6
	56	6.3 x 5.9	45	1700	0.1	112	10VS56MC6
	120	8 x 6.9	35	2560	0.1	240	10VS120MD7
	150	8 x 6.9	35	2560	0.1	300	10VS150MD7
	150	10 x 7.9	30	3020	0.1	300	10VS150ME8
	270	10 x 7.9	25	3700	0.1	540	10VS270ME8
	330	8 x 11.9	17	3950	0.1	660	10VS330MD12
	330	10 x 7.9	25	3700	0.1	660	10VS330ME8
	560	10 x 12.6	13	5230	0.1	1120	10VS560ME12
16	15	5 x 5.9	120	1020	0.1	120	10VS15MB6
	22	5 x 5.9	90	1060	0.1	176	10VS22MB6
	39	6.3 x 5.9	50	1620	0.1	125	16VS39MC6
	47	6.3 x 5.9	50	1620	0.1	150	16VS47MC6
	56	8 x 6.9	45	1890	0.1	179	16VS56MD7
	82	8 x 6.9	40	2120	0.1	262	16VS82MD7
	100	10 x 7.9	35	2670	0.1	320	16VS100ME8
	150	10 x 7.9	30	3020	0.1	480	16VS150ME8
	180	8 x 11.9	20	3640	0.1	576	16VS180MD12
	180	10 x 7.9	30	3020	0.1	576	16VS180ME8
	330	10 x 12.6	16	4720	0.1	1056	16VS330ME12
470	10 x 12.6	16	4720	0.1	1504	16VS470ME12	
20	10	5 x 5.9	120	1020	0.1	100	20VS10MB6
	22	6.3 x 5.9	60	1450	0.1	88	20VS22MC6
	27	6.3 x 5.9	60	1450	0.1	108	20VS27MC6
	33	8 x 6.9	45	1890	0.1	132	20VS33MD7
	47	8 x 6.9	45	1890	0.1	188	20VS47MD7
	56	10 x 7.9	40	2400	0.1	224	20VS56ME8
	68	10 x 7.9	40	2400	0.1	272	20VS68ME8
	100	8 x 11.9	24	3320	0.1	400	20VS100MD12
	150	10 x 12.6	20	4320	0.1	600	20VS150ME12
25	6.8	6.3 x 5.9	80	1200	0.1	85	25VS6R8MC6
	10	8 x 6.9	60	1500	0.1	125	25VS10MD7
	22	10 x 7.9	50	2000	0.1	275	25VS22ME8
	33	8 x 11.9	30	2980	0.1	413	25VS33MD12
	56	10 x 12.6	28	3800	0.1	700	25VS56ME12
	100	8 x 11.9	30	3320	0.1	500	25VS100MD12
150	10 x 12.6	25	3800	0.1	750	25VS150ME12	

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors Radial Lead Type

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors SMD Lead Type

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