



Surface mount type
series

High Rated Voltage,
High Capacitance
Low ESR, High ripple current
Load life of 5,000h at 105°C



• Specifications

Items	Characteristics	
Temperature range	-55 to +105°C	
Rated voltage range	16 to 50Vdc	
Capacitance range	10 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	$Z_{+1025^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25$, $Z_{-55^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25$ at 100kHz	
Endurance	105°C, 5,000 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

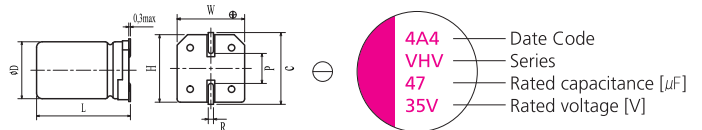
*In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C

• Size List

μF	RV (SV)						(unit: mm)
	16 (18.4)	20 (23)	25 (28.7)	32 (36.8)	35 (40.2)	50 (57.5)	
10						6.3×5.9	
18						8×6.9	
22				6.3×5.9	6.3×5.9	8×6.9	
27			5×5.9				
33							
39					8×6.9	8×11.9	
47			6.3×5.9		6.3×5.9 8×6.9	8×11.9	
56		5×5.9	6.3×5.9			8×11.9	
68				8×6.9		10×12.6	
82	5×5.9		8×6.9		8×11.9		
100			8×6.9			8×11.9 10×12.6	
120		6.3×5.9		8×11.9	10×12.6	8×11.9	
150					10×12.6		
180	6.3×5.9	8×6.9	8×11.9		10×12.6		
220			8×11.9	10×12.6	10×12.6	10×12.6	
270	8×6.9				8×11.9		
330			10×12.6		10×12.6		
390		8×11.9					
470			10×12.6		10×12.6		
560	8×11.9	10×12.6	10×12.6				
1000	10×12.6						
1500	10×12.6						

RV: Rated Voltage [V] SV: Surge Voltage [V] (at room temperature)

• Marking and Dimensions

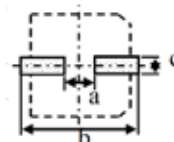


(unit: mm)

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
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	0.6~0.8	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
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 [μ F]	Size \varnothing x L [mm]	ESR (20°C, 100kHz) [m Ω] [max.]	Rated Ripple Current (105°C, 100kHz) [mA rms]	Tangent of Loss Angel [max]	Leakage Current [μ A, max]	Part Number
16	82	5 x 5.9	27	3000	0.12	262	16VHV82MB6
	180	6.3 x 5.9	22	3300	0.12	576	16VHV180MC6
	270	8 x 6.9	22	3300	0.12	864	16VHV270MD7
	560	8 x 11.9	14	4950	0.12	1792	16VHV560MD12
	1000	10 x 12.6	12	5400	0.12	3200	16VHV1000ME12
	1500	10 x 12.6	12	5400	0.12	4800	16VHV1500ME12
20	56	5 x 5.9	30	2800	0.12	224	20VHV56MB6
	120	6.3 x 5.9	25	3200	0.12	480	20VHV120MC6
	180	8 x 6.9	25	3200	0.12	720	20VHV180MD7
	390	8 x 11.9	14	4950	0.12	1560	20VHV390MD12
	560	10 x 12.6	12	5400	0.12	2240	20VHV560ME12
	27	5 x 5.9	40	2450	0.12	135	25VHV27MB6
25	47	6.3 x 5.9	30	2800	0.12	235	25VHV47MC6
	56	6.3 x 5.9	30	2800	0.12	280	25VHV56MC6
	82	8 x 6.9	28	3000	0.12	410	25VHV82MD7
	100	8 x 6.9	25	3200	0.12	500	25VHV100MD7
	180	8 x 11.9	16	4650	0.12	900	25VHV180MD12
	220	8 x 11.9	16	4650	0.12	1100	20VHV220MD12
	330	10 x 12.6	14	5000	0.12	1650	25VHV330ME12
	470	10 x 12.6	14	5000	0.12	2350	25VHV470ME12
560	10 x 12.6	14	5000	0.12	2800	25VHV560ME12	
32	22	6.3 x 5.9	35	2700	0.12	141	32VHV22MC6
	68	8 x 6.9	25	3200	0.12	435	32VHV68MD7
	120	8 x 11.9	20	4000	0.12	768	32VHV120MD12
	220	10 x 12.6	18	4650	0.12	1408	32VHV220ME12
35	22	6.3 x 5.9	35	2600	0.12	154	35VHV22MC6
	39	8 x 6.9	30	2800	0.12	273	35VHV39MD7
	47	6.3 x 5.9	30	2800	0.12	329	35VHV47MC6
	47	8 x 6.9	30	2800	0.12	329	35VHV47MD7
	82	8 x 11.9	20	4000	0.12	574	35VHV82MD12
	100	8 x 11.9	20	4000	0.12	700	35VHV100MD12
	120	10 x 12.6	18	4400	0.12	840	35VHV120ME12
	150	10 x 12.6	18	4400	0.12	1050	35VHV150ME12
	180	10 x 12.6	18	4400	0.12	262	16VHV82MB6
	220	10 x 12.6	18	4400	0.12	1260	35VHV180ME12
	270	8 x 11.9	20	4200	0.12	1890	35VHV270MD12
	330	10 x 12.6	17	4650	0.12	2310	35VHV220ME12
470	10 x 12.6	17	4750	0.12	3290	35VHV220ME12	
50	10	6.3 x 5.9	40	2500	0.12	100	50VHV10MC6
	18	8 x 6.9	35	2700	0.12	180	50VHV18MD7
	22	8 x 6.9	35	2700	0.12	220	50VHV22MD7
	39	8 x 11.9	25	3800	0.12	390	50VHV39MD12
	47	8 x 11.9	25	3800	0.12	470	50VHV47MD12
	56	8 x 11.9	25	3800	0.12	560	50VHV56MD12
	68	10 x 12.6	20	4300	0.12	680	50VHV68ME12
	100	8 x 11.9	25	3900	0.12	1000	50VHV100MD12
	100	10 x 12.6	20	4300	0.12	1000	50VHV100ME12
	120	8 x 11.9	25	3900	0.12	1200	50VHV120MD12
220	10 x 12.6	20	4650	0.12	2200	50VHV220ME12	

Conductive Polymer Hybrid
Aluminum Electrolytic Capacitors
Radial Lead Type

Conductive Polymer Hybrid
Aluminum Electrolytic Capacitors
SMD Lead Type

Conductive Polymer Aluminum
Electrolytic Capacitors_Radial Lead Type

Conductive Polymer Aluminum
Electrolytic Capacitors_SMD Lead Type