

# VHV

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 <sub>+105°C</sub> /Z <sub>+20°C</sub> ≤ 1.25, Z <sub>-55°C</sub> /Z <sub>+20°C</sub> ≤ 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
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
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

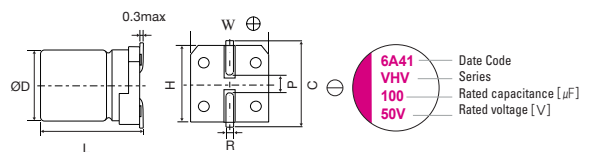
## DIMENSIONS

(unit : mm)

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

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

## MARKING AND SIZE LIST

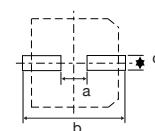


(unit : mm)

Size	ΦD±0.5	L	<sup>+0.1</sup> <sub>-0.4</sub>	W±0.2	H±0.2	C±0.2	R	P±0.2
5 x 5.9	5.0	5.9		5.3	5.3	6.0	0.6 to 0.8	1.4
6.3 x 5.9	6.3	5.9		6.6	6.6	7.3	0.6 to 0.8	2.1
8 x 6.9	8.0	6.9		8.3	8.3	9.0	0.6 to 0.8	3.2
8 x 11.9	8.0	11.9		8.3	8.3	9.0	0.8 to 1.1	3.2
10 x 12.6	10.0	12.6		10.3	10.3	11.0	0.8 to 1.1	4.6

## RECOMMENDED LAND PATTERN DIMENSION OF PCB

(unit : mm)



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

# Conductive Polymer Aluminum Capacitors

## STANDARD RATINGS

Rated Voltage [Vdc]	Rated Capacitance [μF]	Size Φ D x L [mm]	ESR (20°C, 100kHz) [mΩ] [max.]	Rated Ripple Current (105°C, 100kHz) [mA <sub>rms</sub> ]	Tangent of Loss Angel [max.]	Leakage Current [μA, max.]	Part Number
16	82	5x5.9	27	3000	0.12	262	16VHV82MB6
	180	6.3x5.9	22	3300	0.12	576	16VHV180MC6
	270	8 x 6.9	22	3300	0.12	864	16VHV270MD7
	560	8x11.9	14	4950	0.12	1792	16VHV560MD12
	1000	10x12.6	12	5400	0.12	3200	16VHV1000ME12
	1500	10x12.6	12	5400	0.12	4800	16VHV1500ME12
20	56	5x5.9	30	2800	0.12	224	20VHV56MB6
	120	6.3x5.9	25	3200	0.12	480	20VHV120MC6
	180	8 x 6.9	25	3200	0.12	720	20VHV180MD7
	390	8x11.9	14	4950	0.12	1560	20VHV390MD12
	560	10x12.6	12	5400	0.12	2240	20VHV560ME12
25	27	5x5.9	40	2450	0.12	135	25VHV27MB6
	47	6.3x5.9	30	2800	0.12	235	25VHV47MC6
	56	6.3x5.9	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
	330	10x12.6	14	5000	0.12	1650	25VHV330ME12
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	8 x 6.9	30	2800	0.12	329	35VHV47MD7
	82	8 x 11.9	20	4000	0.12	574	35VHV82MD12
	120	10x12.6	18	4400	0.12	840	35VHV120ME12
	150	10x12.6	18	4400	0.12	1050	35VHV150ME12
	180	10x12.6	18	4400	0.12	1260	35VHV180ME12
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	10 x 12.6	20	4300	0.12	1000	50VHV100ME12

