

# VH series

SMD type, has larger capacitance, lower ESR and larger ripple current compared to the VG series. Lead free-reflow is supported.



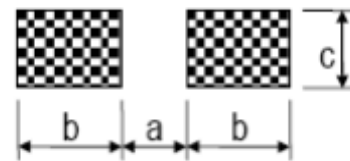
VH是表面貼裝型產品，與VG系列相比，具有更大容量、更低ESR以及更大紋波電流。可適應無鉛回流焊。

## Specifications

Items	Characteristics	
Operating Temp. Range	-55°C~+105°C	
Capacitance Range	270~3300 $\mu$ F	
Capacitance Tolerance	M : $\pm$ 20%	
Rated Voltage Range	2.5V~25V DC	
Dissipation Factor (at 120Hz,20°C)	Not to exceed the value specified	
Leakage Current	$\leq$ 0.2CV ( $\mu$ A, after 2 minutes)	
ESR(100K~300KHz)	Not to exceed the value specified	
Endurance 105°C, 2000h, at rated voltage	Capacitance	Within $\pm$ 20% of the value before test
	Leakage current	Not to exceed the value specified
	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified
Moisture Resistance Stored at 60°C, Rh90~95%, 2000h	Capacitance	Within $\pm$ 20% of the value before test
	Leakage Current	Not to exceed the value specified
	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified

## Recommended land pattern

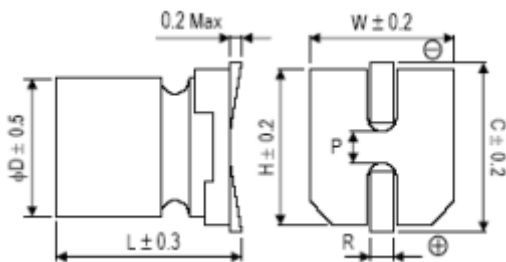
Unit: mm



$\Phi$ D×L	a	b	c
8×11.7	2.8	4.2	1.9
10×12.4	4.3	4.4	1.9

## Diagram of Dimensions

Unit: mm



$\Phi$ D×L	W	H	C	R	P
8×11.7	8.3	8.3	9.0	0.8 to 1.1	3.2
10×12.4	10.3	10.3	11.0	0.8 to 1.1	4.6

## Size List

RV/v(SV) CAP/ $\mu$ F	2.5 (2.8)	4 (4.6)	6.3 (7.2)	10 (11.5)	16 (18.4)
270					8×11.7
330					8×11.7 /10×12.4
390					10×12.4
470			8×11.7	8×11.7	10×12.4
560		8×11.7	8×11.7	8×11.7	10×12.4
680		8×11.7	8×11.7	10×12.4	10×12.4
820	8×11.7	8×11.7	8×11.7 /10×12.4	10×12.4	
1000	8×11.7	8×11.7	10×12.4	10×12.4	
1200	8×11.7	8×11.7	10×12.4	10×12.4	
1500	8×11.7	10×12.4	10×12.4		
2000	10×12.4	10×12.4	10×12.4		
2500	10×12.4	10×12.4			
2700	10×12.4				
3000	10×12.4				
3300	10×12.4				

**Characteristics List**

W.V. (V)	Capacitance ( $\mu$ F)	L.C. ( $\mu$ A,2min)	tg $\delta$ (120Hz,20°C)	ESR (m $\Omega$ ,100kHz)	Rated Ripple Current(mA,r.m.s)	Size $\Phi$ D×L (mm)	Part Number
2.5	820	410	0.08	8	5600	8×11.7	VH821M2R5F117
	1000	500	0.08	8	5600	8×11.7	VH102M2R5F117
	1200	600	0.08	8	5600	8×11.7	VH122M2R5F117
	1500	750	0.08	8	5600	8×11.7	VH152M2R5F117
	2000	1000	0.08	8	6100	10×12.4	VH202M2R5G124
	2500	1250	0.08	8	6100	10×12.4	VH252M2R5G124
	2700	1350	0.10	8	6100	10×12.4	VH272M2R5G124
	3000	1500	0.10	8	6100	10×12.4	VH302M2R5G124
4	3300	1650	0.10	8	6100	10×12.4	VH332M2R5G124
	560	448	0.08	8	5600	8×11.7	VH561M004F117
	680	544	0.08	8	5600	8×11.7	VH681M004F117
	820	656	0.08	8	5600	8×11.7	VH821M004F117
	1000	800	0.10	8	5600	8×11.7	VH102M004F117
	1200	960	0.10	8	5600	8×11.7	VH122M004F117
	1500	1200	0.10	8	6100	10×12.4	VH152M004G124
	2000	1600	0.10	8	6100	10×12.4	VH202M004G124
6.3	2500	2000	0.10	8	6100	10×12.4	VH252M004G124
	470	592	0.08	8	5600	8×11.7	VH471M6R3F117
	560	705.6	0.08	8	5600	8×11.7	VH561M6R3F117
	680	856	0.08	8	5600	8×11.7	VH681M6R3F117
	820	1033.2	0.10	8	5600	8×11.7	VH821M6R3F117
	820	1033.2	0.10	8	6100	10×12.4	VH821M6R3G124
	1000	1260	0.10	8	6100	10×12.4	VH102M6R3G124
	1200	1512	0.10	8	6100	10×12.4	VH122M6R3G124
10	1500	1890	0.10	8	6100	10×12.4	VH152M6R3G124
	2000	2520	0.10	8	6100	10×12.4	VH202M6R3G124
	470	940	0.08	8	5600	8×11.7	VH471M010F117
	560	1120	0.08	8	5600	8×11.7	VH561M010F117
	680	1360	0.10	8	6100	10×12.4	VH681M010G124
	820	1640	0.10	8	6100	10×12.4	VH821M010G124
	1000	2000	0.10	8	6100	10×12.4	VH102M010G124
	1200	2400	0.10	8	6100	10×12.4	VH122M010G124
16	270	864	0.08	10	5100	8×11.7	VH271M016F117
	330	1056	0.08	10	5100	8×11.7	VH331M016F117
	330	1056	0.08	10	5500	10×12.4	VH331M016G124
	390	1248	0.08	10	5500	10×12.4	VH391M016G124
	470	1504	0.10	10	5500	10×12.4	VH471M016G124
	560	1792	0.10	10	5500	10×12.4	VH561M016G124
	680	2176	0.10	10	5500	10×12.4	VH681M016G124

**Frequency Coefficient for Ripple Current**

Frequency	120Hz≤freq.<1KHz	1KHz≤freq.<10KHz	10KHz≤freq.<100KHz	100KHz≤freq.<300KHz
Coefficient	0.05	0.3	0.7	1