

VH series

- Low ESR, High Voltage, High ripple current capability
- Rated voltage : 35~100V.
- Endurance : 2,000hours at 105°C
- Applications : LED Driver, LED Power Supply, etc.
- RoHS compliant
- Halogen Free compliant



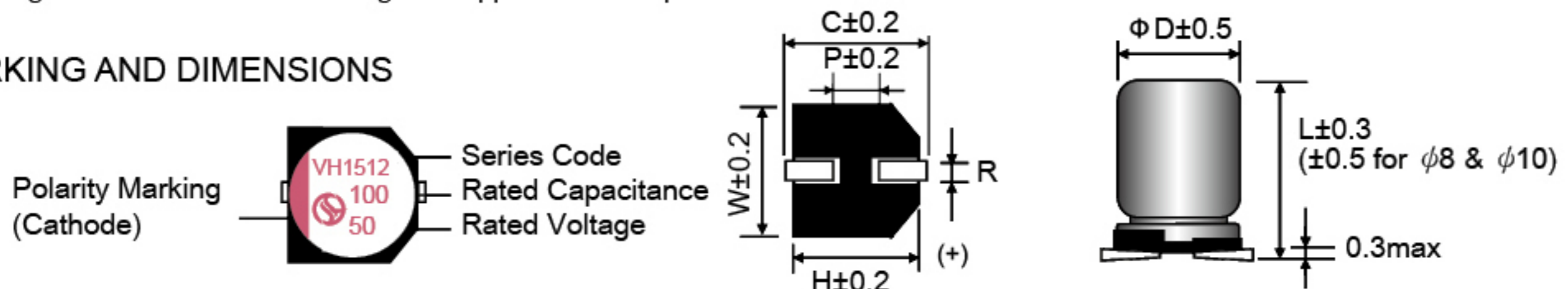
VH

SPECIFICATIONS

Items	Conditions	Characteristics
Category Temperature Range	—	-55 to +105°C
Rated Voltage Range	—	35 ~ 100V
Capacitance Tolerance	at 20°C, 120Hz	±20%(M)
Surge Voltage	at 105°C	Rated voltage × 1.15V
Leakage Current	at 20°C after 2 minutes	$I \leq 0.2CV$ or $300(\mu A)$ Whichever is greater measured, after 2 minutes application of rated working voltage at +20°C. Please see the attached characteristics list
Dissipation Factor (tan δ)	at 20°C, 120Hz	Please see the attached characteristics list
Characteristics of Impedance at low, high temperature	at -55°C, 100kHz	$Z(-55^\circ C)/Z(+20^\circ C) \leq 1.25$
	at -25°C, 100kHz	$Z(-25^\circ C)/Z(+20^\circ C) \leq 1.15$
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours at 105°C.	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF (tan δ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current \leq The initial specified value.
Damp Heag (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to store at 60°C, 90 to 95% RH for 1,000 hours, without DC applied.	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF (tan δ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current \leq The initial specified value.
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through a protective resistor (R = 1 kΩ) and discharge for 5 minutes 30 seconds.	Appearance NO significant damage.
		Capacitance change $\leq \pm 20\%$ of the initial value.
		DF (tan δ) $\leq 150\%$ of the initial specified value.
		ESR $\leq 150\%$ of the initial specified value.
		Leakage current \leq The initial specified value.

※ Note : If any doubt arises, measure the leakage current after following voltage treatment.
Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

MARKING AND DIMENSIONS



(Unit:mm)

φ DxL	φ D	L	W	H	C	R	P
6.3x6	6.3	6.0	6.6	6.6	7.3	0.5~0.8	2.1
6.3x9.5	6.3	9.5	6.6	6.6	7.3	0.5~0.8	2.1
8x7	8.0	7.0	8.3	8.3	9.0	0.5~0.8	3.2
8x9.5	8.0	9.5	8.3	8.3	9.0	0.8~1.1	3.2
8x12	8.0	12.0	8.3	8.3	9.0	0.8~1.1	3.2
10x10.5	10.0	10.5	10.3	10.3	11.0	0.8~1.1	4.6
10x12.5	10.0	12.5	10.3	10.3	11.0	0.8~1.1	4.6

VH SERIES STANDARD CHARACTERISTICS LIST

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
35 (40.3)	22	6.3x6	300	80	1,450	0.12
	56	6.3x9.5	392	50	2,300	0.12
	68	6.3x9.5	476	50	2,300	0.12
	68	8x7	476	60	2,500	0.12
	100	8x12	700	28	2,750	0.12
	220	10x12.5	1,540	28	3,200	0.12
50 (57.5)	12	6.3x6	300	100	1,450	0.12
	33	6.3x9.5	330	50	1,800	0.12
	47	8x9.5	470	45	2,100	0.12
	100	10x12.5	1,000	28	2,560	0.12
	180	10x12.5	1,800	28	2,750	0.12
63 (72.5)	22	6.3x9.5	300	50	1,800	0.12
	33	6.3x9.5	416	50	1,800	0.12
	47	8x12	592	36	2,200	0.12
	56	10x10.5	705	32	2,350	0.12
	100	10x12.5	1,260	28	2,550	0.12
	150	10x12.5	1,890	28	2,550	0.12
80 (92.0)	22	8x9.5	352	45	2,100	0.12
	33	8x12	528	45	2,100	0.12
	47	10x10.5	752	45	2,250	0.12
	68	10x12.5	1,088	38	2,550	0.12
100 (115.0)	15	8x12	300	40	2,050	0.12
	22	10x12.5	440	38	2,250	0.12
	27	10x12.5	540	38	2,250	0.12

※ 1. Capacitance tolerance : ±20% (M)
 ※ 2. After 2 minutes

FREQUENCY COEFFICIENT FOR RIPPLE CURRENT

Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f < 500kHz
Coefficient	0.05	0.3	0.7	1

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