

VC series

- Super low ESR, High ripple current capability
- Rated voltage : 2.5~16V.
- Endurance : 2,000hours at 105°C
- Applications : motherboards, servers, VGA, etc.
- RoHS compliant
- Halogen Free compliant



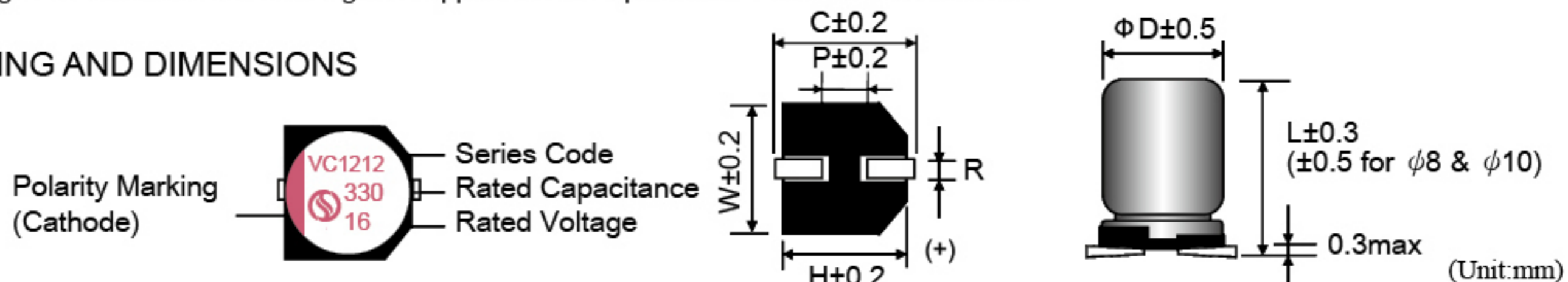
VC

SPECIFICATIONS

Items	Conditions	Characteristics
Category Temperature Range	—	-55 to +105°C
Rated Voltage Range	—	2.5 ~ 16V
Capacitance Tolerance	at 20°C, 120 Hz	±20% (M)
Surge Voltage	at 105°C	Rated voltage x1.15V
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, 120 Hz	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 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



φ DxL	φ D	L	W	H	C	R	P
5x6	5.0	6.0	5.3	5.3	6.0	0.5~0.8	1.4
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

VC 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
2.5 (2.9)	220	5×6	300	40	1,620	0.12
	330	6.3×6	300	20	2,690	0.12
	820	6.3×9.5	410	18	3,200	0.12
	820	8×9.5	410	18	4,520	0.12
	1,500	8×9.5	750	18	4,520	0.12
	1,800	8×12	900	12	5,200	0.12
	2,700	10×12.5	1,350	12	5,500	0.12
4 (4.6)	68	5×6	300	40	1,500	0.12
	150	6.3×6	300	24	2,200	0.12
	680	6.3×9.5	544	16	3,200	0.12
	680	8×7	544	20	3,400	0.12
	1,000	8×9.5	800	16	4,500	0.12
	1,500	8×12	1,200	14	5,100	0.12
	1,800	10×12.5	1,440	12	5,500	0.12
	2,200	10×12.5	2,000	12	5,500	0.12
6.3 (7.2)	100	5×6	300	40	1,500	0.12
	220	5×7	300	20	1,600	0.12
	220	6.3×6	300	20	2,400	0.12
	560	6.3×9.5	705	20	3,200	0.12
	560	8×7	705	20	3,300	0.12
	820	8×9.5	1,033	15	4,450	0.12
	1,000	8×9.5	1,260	15	4,520	0.12
	1,200	8×12	1,512	12	5,020	0.12
	1,500	10×10.5	1,890	15	5,020	0.12
	1,800	10×12.5	2,268	12	5,400	0.12
	2,200	10×12.5	2,772	12	5,500	0.12
10 (11.5)	68	5×6	300	40	1,500	0.12
	120	6.3×6	300	25	2,420	0.12
	150	8×7	300	22	2,450	0.12
	330	6.3×9.5	660	20	3,200	0.12
	560	8×9.5	1,120	16	4,450	0.12
	680	8×9.5	1,360	16	4,450	0.12
	820	8×12	1,640	14	4,850	0.12
	1,000	10×10.5	2,000	15	5,020	0.12
	1,200	10×10.5	2,400	15	5,200	0.12
	1,500	10×12.5	3,000	14	5,400	0.12
16 (18.4)	100	6.3×6	320	24	2,400	0.12
	180	6.3×9.5	576	20	3,200	0.12
	220	6.3×9.5	704	20	3,200	0.12
	270	6.3×9.5	864	20	3,200	0.12
	270	8×7	864	20	3,400	0.12
	270	8×9.5	864	20	4,400	0.12
	470	8×9.5	1,504	20	4,400	0.12
	560	8×12	1,792	16	4,820	0.12
	680	10×10.5	2,176	18	5,200	0.12
	1,000	10×12.5	3,200	16	5,400	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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