

# 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

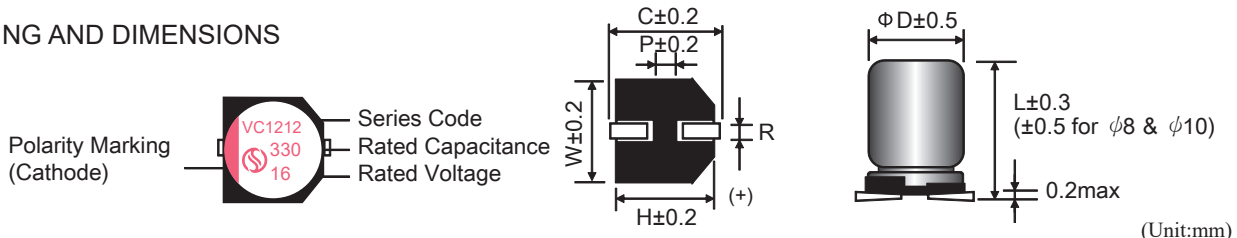


## SPECIFICATIONS

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 2minutes 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 aprotective 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 treatmen : 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	9.3	0.5~0.8	3.2
8x9.5	8.0	10.0	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	10.0	10.0	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

**VC SERIES STANRD CHARACTERISITICS 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	6.3x6	300	20	2,690	0.12
	820	6.3x9.5	410	18	3,200	0.12
	820	8x9.5	410	18	4,520	0.12
	1,500	8x9.5	750	18	4,520	0.12
	1,800	8x12	900	12	5,200	0.12
	2,700	10x12.5	1,350	12	5,500	0.12
4 (4.6)	68	5x6	300	40	1,500	0.12
	150	6.3x6	300	24	2,200	0.12
	680	6.3x9.5	544	16	3,200	0.12
	680	8x7	544	20	3,400	0.12
	1,000	8x9.5	800	16	4,500	0.12
	1,500	8x12	1,200	14	5,100	0.12
	1,800	10x12.5	1,440	12	5,500	0.12
	2,200	10x12.5	2,000	12	5,500	0.12
6.3 (7.2)	100	5x6	300	40	1,500	0.12
	220	5x7	300	20	1,600	0.12
	220	6.3x6	300	20	2,400	0.12
	560	6.3x9.5	705	20	3,200	0.12
	560	8x7	705	20	3,300	0.12
	820	8x9.5	1,033	15	4,450	0.12
	1,000	8x9.5	1,260	15	4,520	0.12
	1,200	8x12	1,512	12	5,020	0.12
	1,500	10x10	1,890	15	5,020	0.12
	1,800	10x12.5	2,268	12	5,400	0.12
	2,200	10x12.5	2,772	12	5,500	0.12
10 (11.5)	68	5x6	300	40	1,500	0.12
	120	6.3x6	300	25	2,420	0.12
	150	8x7	300	22	2,450	0.12
	330	6.3x9.5	660	20	3,200	0.12
	560	8x9.5	1,120	16	4,450	0.12
	680	8x9.5	1,360	16	4,450	0.12
	820	8x12	1,640	14	4,850	0.12
	1,000	10x10	2,000	15	5,020	0.12
	1,200	10x10	2,400	15	5,200	0.12
	1,500	10x12.5	3,000	14	5,400	0.12
16 (18.4)	100	6.3x6	320	24	2,400	0.12
	180	6.3x9.5	576	20	3,200	0.12
	220	6.3x9.5	704	20	3,200	0.12
	270	6.3x9.5	864	20	3,200	0.12
	270	8x7	864	20	3,400	0.12
	270	8x9.5	864	20	4,400	0.12
	470	8x9.5	1,504	20	4,400	0.12
	560	8x12	1,792	16	4,820	0.12
	680	10x10	2,176	18	5,200	0.12
	1,000	10x12.5	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