VC series

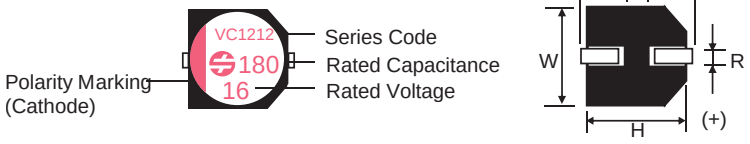
- Low ESR at high frequence range.
- Rated voltage :2.5~20V
- Endurance:2,000 hours at 105℃
- Applications: LCD Monitor ,LCD-TV ,D/A Inverter ,SPS ,D/D Converter. etc.
- RoHS Compliance.

SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +105℃	
Rated Voltage Range	—	2.5 ~ 20V	
Capacitance Tolerance	at 20℃, 120 Hz	±20% (M)	
Surge Voltage	at 105℃	Rated voltage x1.15V	
Leakage Current	at 20℃ after 2 minutes	Less than or equal to the value of Table	
Dissipation Factor (tan δ)	at 20℃, 120 Hz	Less than or equal to the value of Table	
Characteristics of Impedance at low, high temperature	at -55℃, 100 KHz	Z(-55℃) / Z(+20℃)	≦0.75 to 1.25
	at +105℃, 100 KHz	Z(+105℃) / Z(+20℃)	≦0.75 to 1.25
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 2,000 hours at 105℃.	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ The initial specified value.
Damp Heag (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them to store 60℃, 90 to 95% RH for 1,000 hours, without DC applied.	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ 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℃ for 30 seconds through aprotective resistor (R = 1 kΩ) and discharge for 5 minutes 30 seconds.	Appearance	NO significant damage.
		Capacitance change	≦ ±20% of the initial value.
		DF (tan δ)	≦ 150% of the initial specified value.
		ESR	≦ 150% of the initial specified value.
		Leakage current	≦ 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 60 minutes at 105℃.

MARKING AND DIMENSIONS



(Unit:mm)

ΦDxL	ΦD+0.5	Lmax	W±0.2	H±0.2	C±0.2	R	P±0.2
5x6	5.0	6	5.3	5.5	6	0.5~0.8	1.4
6.3x5	6.3	6	6.6	6.6	7.3	0.5~0.8	2.1
8x7	8.0	8	8.3	8.3	9	0.8~1.1	3.2
10x8	10.0	8	10.3	10.3	9	0.8~1.1	4.6

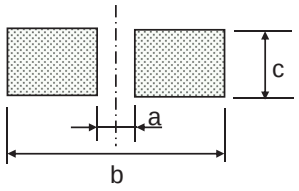
VC

VC SERIES STANRD CHARACTERISITICS LIST

WV/Vdc (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100K to 300 KHz / 20℃	Rated Ripple Current (mA rms) 100KHz / 105℃	D.F. (tanδ) max. 120Hz / 20℃
2.5 (2.9)	82	5x6	300	30	1,970	0.12
	180	6.3x6	300	20	2,690	0.12
	330	8x7	300	20	3,370	0.12
	820	10x8	500	19	4,240	0.12
4 (4.6)	68	5x6	300	30	1,970	0.12
	150	6.3x6	300	22	2,570	0.12
	270	8x7	300	22	3,220	0.12
	680	10x8	544	20	4,130	0.12
6.3 (7.2)	47	5x6	300	30	1,970	0.12
	120	6.3x6	300	22	2,570	0.12
	220	8x7	300	22	3,220	0.12
	470	10x8	592	20	4,130	0.12
10 (11.5)	68	6.3x6	300	30	2,200	0.12
	150	8x7	500	30	2,760	0.12
	330	10x8	660	24	3,770	0.12
16 (18.4)	39	6.3x6	300	35	2,040	0.12
	82	8x7	300	30	2,760	0.12
	180	10x8	576	29	3,430	0.12
20 (23.0)	10	5x6	300	40	1,700	0.12
	47	8x7	300	33	2,630	0.12

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

RECOMMENDED LAND PATTEND DIMENSION OF PCB



(Unit:mm)

ΦDxL	a	b	c
5x6	1.4	7.4	1.6
6.3x6	2.1	9.1	1.6
8x7	2.8	11.1	1.9
10x8	4.3	13.1	1.9

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