VA series

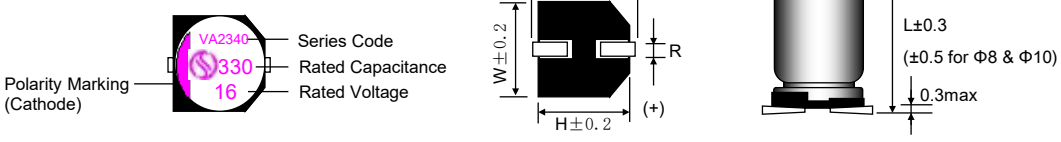
- Standard SMD type.
- Rated voltage :2.5~25V
- Endurance:2,000hours at 105℃
- Applications:motherboards, servers,VGA ,etc.
- ROHS compliant
- Halogen Free compliant

SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +105℃	
Rated Voltage Range	—	2.5 ~ 25V	
Capacitance Tolerance	at 20℃,120Hz	±20%(M)	
Surge Voltage	at 105℃	Rated voltage ×1.15V	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.2CV or 300(μA) Whichever is greater measured,after 2minutes application of rated working voltage at +20℃. Please see the attached characteristics list	
Dissipation Factor (tan δ)	at 20℃,120Hz	Please see the attached characteristics list	
Low Temperature Characteristics (Max. Impedance Ratio)	at -55℃,100kHz	Z(-55℃)/Z(+20℃)	≦ 1.25
	at -25℃,100kHz	Z(-25℃)/Z(+20℃)	≦ 1.15
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 at 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=1kΩ) 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 treatment :DC rated voltage are applied to the capacitors for 120 minutes at 105℃.

MARKING AND DIMENSIONS



(Unit:mm)

ΦDxL	ΦD	L	W	H	C	R	P
5×5.8	5.0	5.8	5.3	5.3	6.0	0.5~0.8	1.4
6.3×5.8	6.3	5.8	6.6	6.6	7.3	0.6~0.9	2.1
6.3×7.7	6.3	7.7	6.6	6.6	7.3	0.6~0.9	2.1
6.3×9.5	6.3	9.5	6.6	6.6	7.3	0.6~0.9	2.1
8×6.7	8.0	6.7	8.3	8.3	9.0	0.8~1.1	3.2
8x9.5	8.0	9.5	8.3	8.3	9.0	0.8~1.1	3.2
8×12	8.0	12.0	8.3	8.3	9.0	0.8~1.1	3.2
10×10.5	10.0	10.5	10.3	10.3	11.0	0.8~1.1	4.6
10×12.5	10.0	12.5	10.3	10.3	11.0	0.8~1.1	4.6

VA series

STANDARD RATINGS

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max.	ESR (mΩ) max. 100k to 300kHz / 20℃	Rated Ripple Current (mA rms) 100kHz / 105℃	D.F. (tanδ) max. 120Hz / 20℃
2.5 (2.9)	220	6.3×5.8	300	25	2390	0.12
	330	6.3×5.8	300	25	2390	0.12
	560	6.3×7.7	300	25	2390	0.12
	820	6.3×9.5	410	20	3000	0.12
	1200	8×9.5	600	20	4520	0.12
	1500	8×9.5	750	20	4520	0.12
	1800	8×12	900	13	4520	0.12
	2200	10×10.5	1100	18	4520	0.12
	2700	10×12.5	1350	15	5200	0.12
4 (4.6)	220	6.3×5.8	300	25	2000	0.12
	560	5×5.8	448	20	4500	0.12
	820	8×9.5	656	20	4500	0.12
	1000	8×9.5	800	20	4500	0.12
	1200	8×12	960	15	4820	0.12
	1500	10×10.5	1200	15	4820	0.12
	2200	10×12.5	1760	15	5200	0.12
6.3 (7.2)	100	6.3×5.8	300	25	2400	0.12
	220	6.3×5.8	300	25	2400	0.12
	220	8×6.7	300	25	3020	0.12
	560	6.3×9.5	705	20	3020	0.12
	820	8×9.5	1033	20	4500	0.12
	1000	8×9.5	1260	20	4500	0.12
	1200	8×12	1512	15	4800	0.12
	1500	10×10.5	1890	15	4950	0.12
	2200	10×12.5	2772	15	5200	0.12
10 (11.5)	33	5×5.8	300	45	1100	0.12
	100	6.3×5.8	300	30	1700	0.12
	150	6.3×5.8	300	45	1700	0.12
	330	6.3×9.5	660	45	2050	0.12
	560	8×9.5	1120	35	2560	0.12
	680	8×9.5	1360	35	2560	0.12
	820	8×12	1640	17	3950	0.12
	1000	10×10.5	2000	15	3950	0.12
	1500	10×12.5	3000	13	5230	0.12
16 (18.4)	22	5×5.8	300	40	1000	0.12
	100	6.3×5.8	320	35	1620	0.12
	270	6.3×5.8	864	20	2500	0.12
	270	8×9.5	864	20	3200	0.12
	330	8×9.5	1056	20	3690	0.12
	470	8×9.5	1504	20	3890	0.12
	560	8×12	1792	20	3940	0.12
	680	10×10.5	2176	20	4220	0.12
	820	10×12.5	2624	16	4720	0.12
	1000	10×12.5	3200	16	5200	0.12

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

VA series

STANDARD RATINGS

Rated Voltage (S.V.)	Cap (μF)	Size Code DxL	Leakage current (μA) max.	ESR (mΩ) max. 100k to 300kHz / 20℃	Rated Ripple Current (mA rms) 100kHz / 105℃	D.F. (tanδ) max. 120Hz / 20℃
20 (23.0)	68	5×5.8	300	38	1450	0.12
	180	6.3×9.5	720	30	2450	0.12
	330	8×9.5	1320	30	3000	0.12
	470	8×12	1880	28	3320	0.12
	560	10×12.5	2240	28	3320	0.12
	680	10×12.5	2720	28	4220	0.12
25 (28.8)	47	6.3×5.8	300	40	1200	0.12
	100	6.3×9.5	500	30	2000	0.12
	100	8×6.7	500	40	2000	0.12
	150	8×9.5	750	35	3000	0.12
	220	8×12	1100	28	3500	0.12
	330	10×10.5	1650	30	3800	0.12
	470	10×12.5	2350	28	4000	0.12

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	1.0