

VT series

- Super low ESR, High ripple current capability
- Rated voltage : 4.0~50V.
- Endurance: 1,000hours at 125°C
- Applications: Motherboard, DC/DC Converter, Adapter, SPS, VCR, Camcorder, DSC, PDA, HD Drive, MO Drive, etc.
- ROHS compliant
- Halogen Free compliant



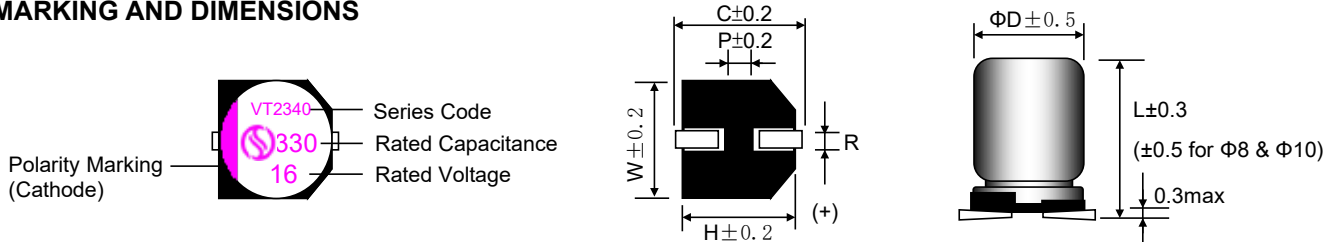
VT

SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +125°C	
Rated Voltage Range	—	4 ~ 50V	
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 ($\tan \delta$)	at 20°C, 120Hz	Please see the attached characteristics list	
Low Temperature Characteristics (Max. Impedance Ratio)	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 1,000 hours at 125°C.	Appearance	No significant damage.
		Capacitance change	$\leq \pm 20\%$ of the initial value.
		DF ($\tan \delta$)	$\leq 150\%$ of the initial specified value.
		ESR	$\leq 150\%$ of the initial specified value.
		Leakage current	\leq The initial specified value.
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 125°C.	Appearance	No significant damage.
		Capacitance change	$\leq \pm 20\%$ of the initial value.
		DF ($\tan \delta$)	$\leq 150\%$ 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 ($\tan \delta$)	$\leq 150\%$ 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 125°C.

MARKING AND DIMENSIONS



(Unit:mm)

ΦDxL	ΦD	L	W	H	C	R	P
6.3×5.8	6.3	5.8	6.6	6.6	7.3	0.6~0.9	2.1
6.3×7	6.3	7.0	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
8×9.5	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

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STANDARD RATINGS

Rated Voltage (S.V.)	Cap (µF)	Size Code DxL	Leakage current (µA) max.	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms)		D.F. (tanδ) max. 120Hz / 20°C
					105°C 100kHz	125°C 100kHz	
4 (4.6)	150	6.3x5.8	300	35	2450	700	0.12
	220	6.3x5.8	300	20	2800	800	0.12
	560	6.3x9.5	448	20	3000	857	0.12
	560	8x6.7	448	20	3000	857	0.12
	820	8x9.5	656	15	3500	1000	0.12
	1200	8x12	960	15	3800	1086	0.12
	1500	10x10.5	1200	12	4500	1286	0.12
	2200	10x12.5	1760	12	5500	1571	0.12
6.3 (7.2)	100	6.3x5.8	300	40	2400	686	0.12
	150	6.3x5.8	300	40	2400	686	0.12
	330	6.3x7	415	30	2800	800	0.12
	470	6.3x9.5	592	25	2800	800	0.12
	680	8x9.5	856	25	2800	800	0.12
	820	8x12	1033	20	3000	857	0.12
	1000	8x12	1260	20	3000	857	0.12
	1200	10x10.5	1512	20	3000	857	0.12
	1800	10x12.5	2268	18	3000	857	0.12
10 (11.5)	100	6.3x5.8	300	35	2800	800	0.12
	330	6.3x9.5	660	25	2800	800	0.12
	470	8x9.5	940	25	3000	857	0.12
	560	8x9.5	1120	25	3000	857	0.12
	680	8x12	1360	20	3500	1000	0.12
	820	10x10.5	1640	20	3500	1000	0.12
	1000	10x10.5	2000	20	3500	1000	0.12
	1200	10x12.5	2400	12	5200	1486	0.12
16 (18.4)	100	6.3x5.8	320	35	2050	586	0.12
	220	6.3x9.5	704	25	2050	586	0.12
	330	8x9.5	1056	25	2700	771	0.12
	470	8x12	1504	20	3930	1123	0.12
	680	10x10.5	2176	18	4520	1291	0.12
	820	10x12.5	2624	18	4900	1400	0.12
25 (28.8)	47	6.3x5.8	300	60	1650	471	0.12
	100	6.3x9.5	500	30	1650	471	0.12
	220	8x12	1100	28	3310	946	0.12
	330	10x10.5	1650	30	4320	1234	0.12
	470	10x12.5	2350	28	4500	1286	0.12
35 (40.3)	22	6.3x5.8	300	70	1450	414	0.12
	68	6.3x9.5	476	40	1450	414	0.12
	120	8x9.5	840	40	1800	514	0.12
	150	8x12	1050	30	2000	571	0.12
	220	10x10.5	1540	30	2200	629	0.12
	270	10x12.5	1890	30	2500	714	0.12

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Rated Voltage (S.V.)	Cap (µF)	Size DxL	Leakage current (µA) max.	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms)		D.F. (tanδ) max. 120Hz / 20°C
					105°C 100kHz	125°C 100kHz	
50 (57.5)	10	6.3x5.8	300	60	1400	400	0.12
	33	6.3x9.5	330	40	1500	429	0.12
	47	8x9.5	470	40	2000	571	0.12
	68	8x12	680	35	2300	657	0.12
	100	10x10.5	1000	35	2200	629	0.12
	100	10x12.5	1000	35	2500	714	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

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