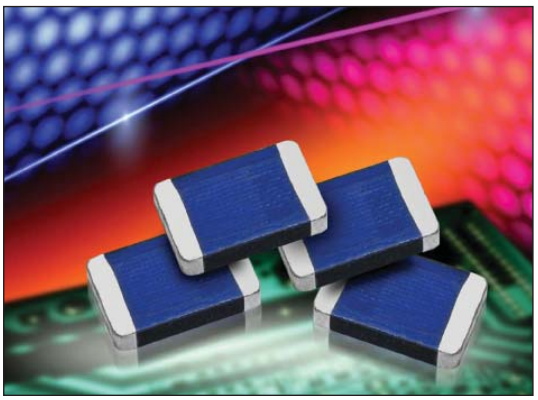
Single Layer Varistors
VC32 Series

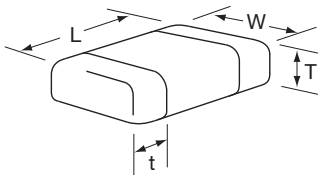


GENERAL DESCRIPTION

The VC32 Series offers the designer a surface mount solution with higher voltage ratings and transient energy ratings than typical multi-layer varistors (MLVs). Think of this series as *surface mountable MOVs.* This series, based on our proven zinc oxide formulation, operates from -55ºC to 125ºC. Additionally, the top and bottom surfaces of the chip are protected with a glass coating.

APPLICATIONS

- MOV (Radial) Replacement
- Suppression of transient on line voltage
- Electric Meters
- Industrial Equipment
- Mains PSUs
- Telecommunications
- Consumer Electronics



PART DIMENSIONS

mm (inches)

L	W	T	t
7.90 - 8.51 (0.311 - 0.335)	4.70 - 5.26 (0.185 - 0.207)	2.03 MAX (0.080 MAX)	0.40 - 1.30 (0.016 - 0.051)

PART SPECIFICATIONS

Part No.	V1mA (nominal)	Vrms	Vdc	Leakage Current (max. µA)	Maximum Clamping Voltage (80/20µs)		Maximum peak current (8/20µs) Ip(A)				Maximum absorption (10/1000µs)	Typical capacitance 1kHz/0.5V
	V	V	V	µA	Vp (V)	Ip (A)	2 Surge	10 Surge	20 Surge	100 Surge	J	pF
VC32M01750K--	270	175	225	200	455	10	200	100	80	50	15.0	135
VC32M00231K--	360	230	300	50	595	10	200	100	80	50	20.0	100
VC32M00251K--	390	250	330	50	650	10	200	100	80	50	21.0	90
VC32M02750K--	430	275	368	50	710	10	200	100	80	50	23.0	80
VC32M00301K--	470	300	385	50	775	10	200	100	80	50	23.0	70

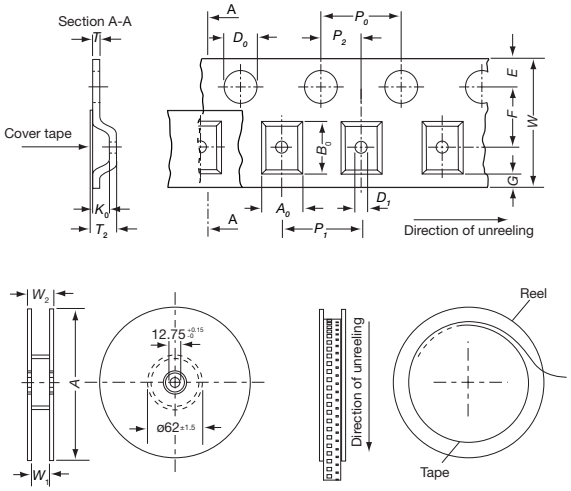
HOW TO ORDER

VC32	M0	0251	K	--
Type VC3220	**Series** M = General Applications	**AC Operating Voltage** EIA Coding e.g. 0251 = 250V_{AC}	**Tolerance of 1mA** K = 10%	**Packaging Suffix** -- = Bulk BG = Tape and Reel

RoHS COMPLIANT

Pb: Free

PACKAGING



Tape Dimensions

mm (inches)

Tape Size	16 (0.630) VC32	Tolerance
A_0 x B_0	5.3 x 8.7 (0.209 x 0.043)	±0.50 (0.20)
K_0	2.50 (0.098)	max.
T_2	3.00 (0.118)	max.
T	0.30 (0.012)	±0.10 (0.004)
D_0	1.50 (0.059)	+0.10/-0 (0.004/-0)
D_1	1.50 (0.059)	min.
P_0	4.00 (0.157)	±0.10[1] (0.004[1])
P_2	2.00 (0.079)	±0.10 (0.004)
P_1	8.00 (0.315)	±0,10 (0.004)
W	16.00 (0.630)	±0.30 (0.012)
E	1.75 (0.069)	±0.10 (0.004)
F	7.50 (0.295)	±0.10 (0.004)
G	0.75 (0.030)	min.

1) ≤±0.2 (0.008) over 10 sprocket holes

Reel Dimensions

Size	VC 32
A (mm)	330_{-2}
W_1	$16.4_{+1.5/-0}$
W_2	22.4

Packing Quantity

Type	Pieces/reel
VC 32	1000

Single Layer Varistors
VC32 Series

RELIABILITY TESTING

Test Description	Test Condition	Test Requirement
SURGE CURRENT (8/20µs Waveform)	CECC 42000 Test C 2.1 100 surges in the same direction at 2 pulses/min at the max. peak current	Δ V/V ≤ 10% No visible damage
SOLDERABILITY	IEC 68-2-20, 235°C ± 2ºC,4s±1s	Coverage > 90%
TEMPERATURE CYCLING	IEC 68-2-14 Ta = -40°C ± 3ºC; Tb = +125°C ± 2ºC Duration: 1 Hr / cycle, 5 cycles	Δ V/V ≤ 5% No visible damage.
ENVIRONMENTAL TESTING	CECC 42000, Test 4.16 a) Dry heat - Test Ba. (IEC 68-2-2) Temperature: 125°C Duration:2H b) Damp heat cyclic (IEC 68-2-30) Temperature: 55°C ±2ºC Duration: 24H Humidity: 95 - 100% RH c) Cold - Test Aa (IEC 68-2-1) Temperature: -40°C±3ºC Duration: 2H d) Damp heat cyclic test (IEC 68-2-30) 5 humidity cycles 24H/cycle	Δ V/V ≤ 10% Insulation Resistance ≥ 1MΩ No visible damage
LIFE TEST	IEC 68-2-2 Applied voltage: max continuous AC Voltage Temperature: 125°C± 2ºC Duration: 1000H	Δ V/V ≤ 10% Insulation Resistance ≥ 1MΩ No visible damage
DAMP HEAT, STEADY STATE	IEC 68-2-3 Tested with no voltage applied and 10% of maximum continuous DC voltage applied Temperature: 40°C±2ºC Duration: 56 days Humidity: 93% +2,-3% RH	Delta V/V ≤ 10% Insulation Resistance min 1MΩ No visible damage
FLAMMABILITY NEEDLE FLAME	IEC 695-2-2 Duration: 10 s +0s, -1s Orientation: Vertical	Visual No spreading of fire

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