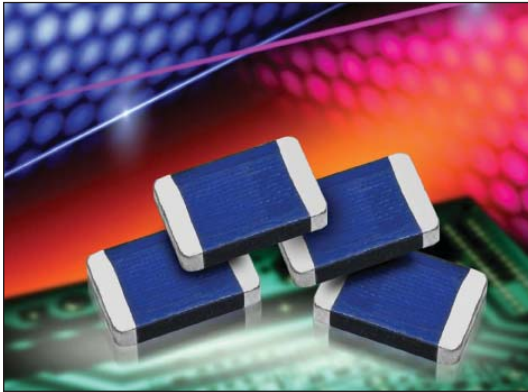


Single Layer Varistors

VC32 Series

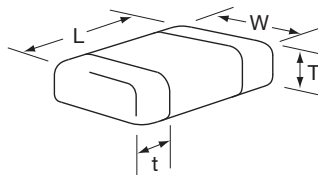


GENERAL DESCRIPTION

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 -55°C to 125°C. 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. μ A)	Maximum Clamping Voltage (80/20 μ s)		Maximum peak current (8/20 μ s) Ip(A)				Maximum absorption (10/1000 μ s)	Typical capacitance 1kHz/0.5V
	V	V	V	μ A	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



Type
VC3220

M0



Series
M = General Applications

0251



**AC Operating
Voltage**
EIA Coding
e.g. 0251 = 250V_{AC}

K



**Tolerance
of 1mA**
K = 10%

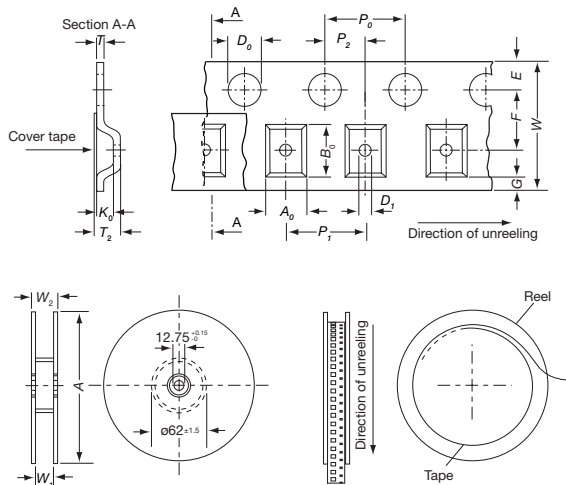
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**Packaging
Suffix**
-- = Bulk
BG = Tape and Reel



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	$\Delta V/V \leq 10\%$ No visible damage
SOLDERABILITY	IEC 68-2-20, 235°C $\pm$ 2°C, 4s $\pm$ 1s	Coverage > 90%
TEMPERATURE CYCLING	IEC 68-2-14 Ta = -40°C $\pm$ 3°C; Tb = +125°C $\pm$ 2°C Duration: 1 Hr / cycle, 5 cycles	$\Delta V/V \leq 5\%$ 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 $\pm$ 2°C Duration: 24H Humidity: 95 - 100% RH c) Cold - Test Aa (IEC 68-2-1) Temperature: -40°C $\pm$ 3°C Duration: 2H d) Damp heat cyclic test (IEC 68-2-30) 5 humidity cycles 24H/cycle	$\Delta V/V \leq 10\%$ Insulation Resistance $\geq 1\text{M}\Omega$ No visible damage
LIFE TEST	IEC 68-2-2 Applied voltage: max continuous AC Voltage Temperature: 125°C $\pm$ 2°C Duration: 1000H	$\Delta V/V \leq 10\%$ Insulation Resistance $\geq 1\text{M}\Omega$ 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 $\pm$ 2°C Duration: 56 days Humidity: 93% $\pm$ 2, -3% RH	Delta V/V $\leq 10\%$ 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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S-SLV0M506-N