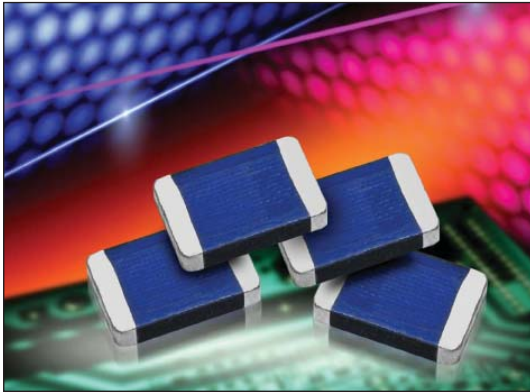


Single Layer Varistors

VC32 Series

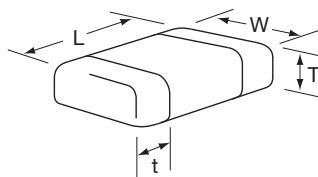


GENERAL DESCRIPTION

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
- Industrial Equipment
- Suppression of transient on line voltage
- Mains PSUs
- Electric Meters
- 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

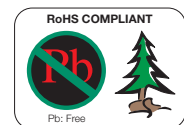


Tolerance of 1mA
K = 10%

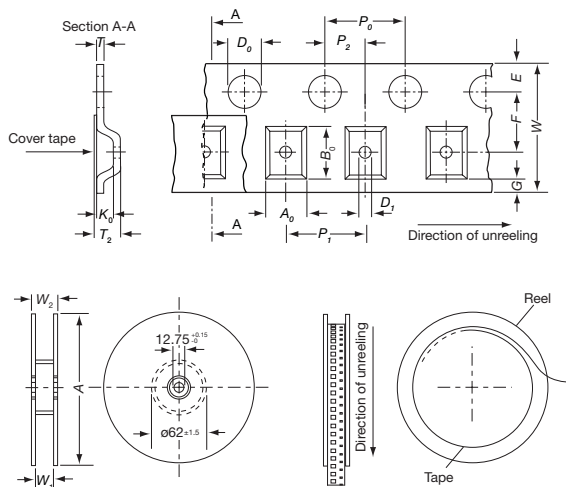
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Packaging Suffix
-- = Bulk
BG = Tape and Reel



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 (8/20 μ s 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 1M Ω 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 1M Ω 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% +2, -3% RH	Delta V/V \leq 10% Insulation Resistance min 1M Ω 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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AMERICAS

AVX Myrtle Beach, SC Corporate Offices

Tel: 843-448-9411
FAX: 843-448-1943

AVX Northwest, WA

Tel: 360-699-8746
FAX: 360-699-8751

AVX North Central, IN

Tel: 317-848-7153
FAX: 317-844-9314

AVX Mid/Pacific, CA

Tel: 510-661-4100
FAX: 510-661-4101

AVX Midwest, MN

Tel: 952-974-9155
FAX: 952-974-9179

AVX Southwest, AZ

Tel: 602-678-0384
FAX: 602-678-0385

AVX South Central, TX

Tel: 972-669-1223
FAX: 972-669-2090

AVX Southeast, GA

Tel: 404-608-8151
FAX: 770-972-0766

AVX Canada

Tel: 905-238-3151
FAX: 905-238-0319

AVX South America

Tel: ++55-11-2193-7200
FAX: ++55-11-2193-7210

EUROPE

AVX Limited, England European Headquarters

Tel: ++44 (0) 1252-770000
FAX: ++44 (0) 1252-770001

AVX/ELCO, England

Tel: ++44 (0) 1638-675000
FAX: ++44 (0) 1638-675002

AVX S.A., France

Tel: ++33 (1) 69-18-46-00
FAX: ++33 (1) 69-28-73-87

AVX GmbH, Germany

Tel: ++49 (0) 8131-9004-0
FAX: ++49 (0) 8131-9004-44

AVX srl, Italy

Tel: ++390 (0)2 614-571
FAX: ++390 (0)2 614-2576

AVX Czech Republic

Tel: ++420 465-358-111
FAX: ++420 465-323-010

ASIA-PACIFIC

AVX/Kyocera, Singapore Asia-Pacific Headquarters

Tel: (65) 6286-7555
FAX: (65) 6488-9880

AVX/Kyocera, Hong Kong

Tel: (852) 2-363-3303
FAX: (852) 2-765-8185

AVX/Kyocera, Korea

Tel: (82) 2-785-6504
FAX: (82) 2-784-5411

AVX/Kyocera, Taiwan

Tel: (886) 2-2698-8778
FAX: (886) 2-2698-8777

AVX/Kyocera, Malaysia

Tel: (60) 4-228-1190
FAX: (60) 4-228-1196

Elco, Japan

Tel: 045-943-2906/7
FAX: 045-943-2910

Kyocera, Japan - AVX

Tel: (81) 75-604-3426
FAX: (81) 75-604-3425

Kyocera, Japan - KDP

Tel: (81) 75-604-3424
FAX: (81) 75-604-3425

AVX/Kyocera, Shanghai, China

Tel: 86-21 6341 0300
FAX: 86-21 6341 0330

AVX/Kyocera, Beijing, China

Tel: 86-10 8458 3385
FAX: 86-10 8458 3382

ASIA-KED

KED, Hong Kong

Tel: (852) 2305 1080
FAX: (852) 2305 1405

KED, Shanghai

Tel: (86) 21 6859 9898
FAX: (86) 21 5887 2542

KED, Beijing

Tel: (86) 10 5869 4655
FAX: (86) 10 5869 4677

KED, South Korea

Tel: (82) 2 783 3288
FAX: (82) 2 783 3207

KED, Taiwan

Tel: (886) 2 2950 0268
FAX: (886) 2 2950 0520

KED, Singapore

Tel: (65) 6255 3122
FAX: (65) 6255 5092



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