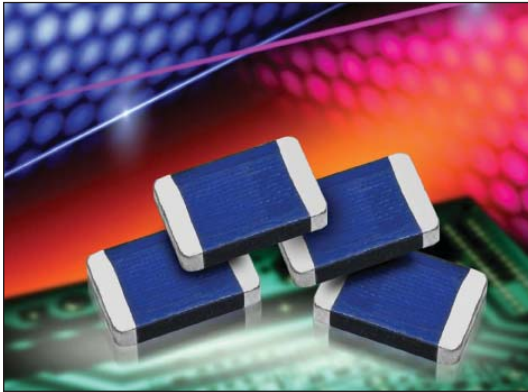


Single Layer Varistors

VC32 Series

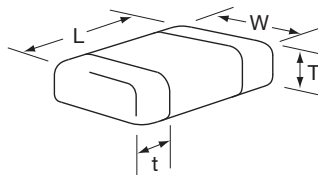


GENERAL DESCRIPTION

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%

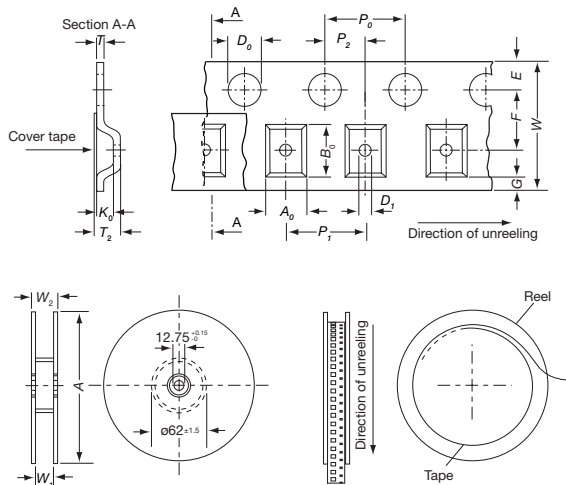
--



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 $\geq 1M\Omega$ 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 $\geq 1M\Omega$ 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

NOTICE: Specifications are subject to change without notice. Contact your nearest AVX Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all applications.

© AVX Corporation

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



A KYOCERA GROUP COMPANY

<http://www.avx.com>

S-SLV0M506-N