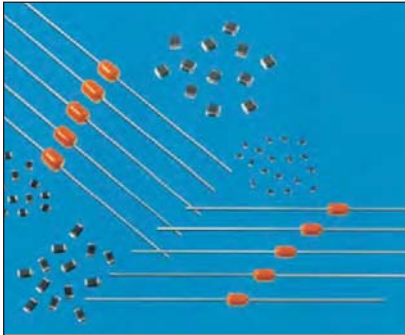


Axial TransGuard® and StaticGuard



AVX Axial Multilayer Ceramic Transient Voltage Suppressors



GENERAL DESCRIPTION

Axial TransGuard® multilayer varistors are zinc oxide (ZnO) based ceramic semiconductor devices with non-linear voltage-current characteristics (bi-directional) similar to back-to-back zener diodes. They have the added advantage of greater current and energy handling capabilities as well as EMI/RFI attenuation.

Axial StaticGuard is low capacitance version of the TransGuard and are designed for general ESD protection of CMOS, Bi-Polar, and SiGe based systems.

AVX Axial varistors are designed for applications where leaded component is preferred and for durability in harsh environment.

GENERAL CHARACTERISTICS

- Operating Temperatures: -55°C to +125°C
- Working Voltage: 3.3 - 60Vdc
- Case Size: Axial
- Energy: 0.1 - 2.0J
- Peak Current: 30 - 300A

FEATURES

- Axial leaded, epoxy encapsulated
- Fast Response
- EMI/RFI filtering in the off-state
- Multiple strikes capability

APPLICATIONS

- White Goods
- Industrial Equipment
- Sensors
- Relays
- DC Motors
- and more

HOW TO ORDER - AXIAL TRANSGUARD®

| VA | 1000 | 18 | D | 400 | R | L |
|-------------------|--------------|--|----------------------------------|--|--|------------------|
| Varistor Axial | Case Size | Voltage | Energy Rating | Clamping Voltage | Packaging | Termination |
| | 1000 2000 | 03 = 3.3Vdc 05 = 5.6Vdc 14 = 14Vdc 18 = 18Vdc 26 = 26Vdc 30 = 30Vdc 48 = 48Vdc 60 = 60Vdc | A = 0.1J D = 0.4J K = 0.6J | 100 = 12V 150 = 18V 300 = 32V 400 = 42V 580 = 60V 650 = 67V 101 = 100V 121 = 120V | D = 7" reel R = 7" reel T = 13" reel | L = Ni/Sn plated |



| Packaging (Pcs/Reel: | | | |
|----------------------|-------|-------|-------|
| STYLE | D | R | T |
| VA1000 | 1,000 | 3,000 | 7,500 |
| VA2000 | 1,000 | 2,500 | 5,000 |

HOW TO ORDER - AXIAL STATICGUARD

| VA | 10 | LC | 18 | A | 500 | R | L |
|-------------------|--------------|--------------------|------------|------------------|---------------------|--|------------------|
| Varistor Axial | Case Size | Low Capacitance | Voltage | Energy Rating | Clamping Voltage | Packaging | Termination |
| | 10 = 1000 | | 18 = 18Vdc | A = 0.1J | 500 = 50V | D = 7" reel R = 7" reel T = 13" reel | L = Ni/Sn plated |

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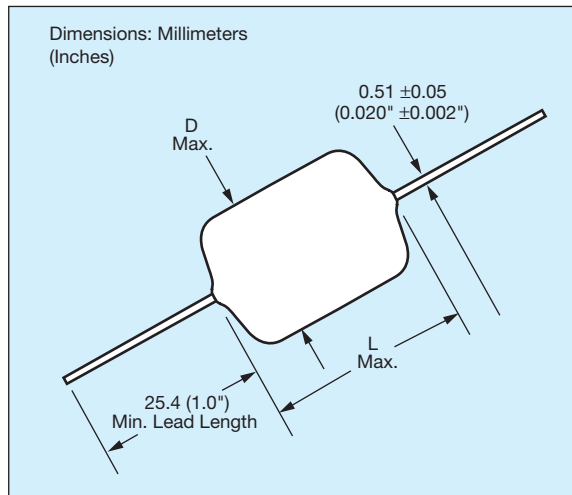
AXIAL TRANSGUARD®

| AVX PN | V _w (DC) | V _w (AC) | V _B | V _C | I _{vc} | I _L | E _T | I _P | Cap | Freq | Case |
|--------------|---------------------|---------------------|----------------|----------------|-----------------|----------------|----------------|----------------|------|------|------|
| VA100003A100 | 3.3 | 2.3 | 5.0±20% | 12 | 1 | 100 | 0.1 | 40 | 1500 | K | 1000 |
| VA100003D100 | 3.3 | 2.3 | 5.0±20% | 12 | 1 | 100 | 0.4 | 150 | 4700 | K | 1000 |
| VA100005A150 | 5.6 | 4.0 | 8.5±20% | 18 | 1 | 35 | 0.1 | 40 | 1000 | K | 1000 |
| VA100005D150 | 5.6 | 4.0 | 8.5±20% | 18 | 1 | 35 | 0.4 | 150 | 2800 | K | 1000 |
| VA100014A300 | 14.0 | 10.0 | 18.5±12% | 32 | 1 | 15 | 0.1 | 40 | 325 | K | 1000 |
| VA100014D300 | 14.0 | 10.0 | 18.5±12% | 32 | 1 | 15 | 0.4 | 150 | 1100 | K | 1000 |
| VA100018A400 | 18.0 | 13.0 | 25.5±10% | 42 | 1 | 10 | 0.1 | 40 | 350 | K | 1000 |
| VA100018D400 | 18.0 | 13.0 | 25.5±10% | 42 | 1 | 10 | 0.4 | 150 | 900 | K | 1000 |
| VA100026D580 | 26.0 | 18.0 | 34.5±10% | 60 | 1 | 10 | 0.4 | 120 | 650 | K | 1000 |
| VA100030D650 | 30.0 | 21.0 | 41.0±10% | 67 | 1 | 10 | 0.4 | 120 | 550 | K | 1000 |
| VA100048D101 | 48.0 | 34.0 | 62.0±10% | 100 | 1 | 10 | 0.4 | 100 | 200 | K | 1000 |
| VA200060K121 | 60.0 | 42.0 | 76.0±10% | 120 | 1 | 10 | 2.0 | 300 | 400 | K | 2000 |

AXIAL STATICGUARD

| AVX PN | V _w (DC) | V _w (AC) | V _B | V _C | I _{vc} | I _L | E _T | I _P | Cap | Freq | Case |
|--------------|---------------------|---------------------|----------------|----------------|-----------------|----------------|----------------|----------------|-----|------|------|
| VA10LC18A500 | ≤18.0 | ≤14.0 | 25-40 | 50 | 1 | 10 | 0.1 | 30 | 200 | K | 1000 |

| | | |
|---------------------|--|---|
| V _w (DC) | DC Working Voltage (V) | Working Voltage (μA) |
| V _w (AC) | AC Working Voltage (V) | E _T Transient Energy Rating (J, 10x1000μS) |
| V _B | Typical Breakdown Voltage (V @ 1mA _{vc}) | I _P Peak Current Rating (A, 8x20μS) |
| V _B Tol | V _B Tolerance is ± from Typical Value | Cap Typical Capacitance (pF) @ frequency specified and 0.5 V _{AMS} |
| V _C | Clamping Voltage (V @ I _{vc}) | Freq Frequency at which capacitance is measured (K = 1kHz, M = 1MHz) |
| I _{vc} | Test Current for V _C (A, 8x20μS) | |
| I _L | Maximum Leakage Current at the | |



DIMENSIONS: mm (inches)

| AVX Style | | VA1000 | VA2000 |
|------------------|----------|--------------|--------------|
| (L) Max Length | mm (in.) | 4.32 (0.170) | 4.83 (0.190) |
| (D) Max Diameter | mm (in.) | 2.54 (0.100) | 3.56 (0.140) |

Lead Finish: Copper Clad Steel, Solder Coated



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Kyocera AVX:

| | | | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <u>VA100026D580DL</u> | <u>VA100026D580RL</u> | <u>VA100014D300DL</u> | <u>VA100030D650DL</u> | <u>VA100003D100DL</u> | |
| <u>VA100048D101DL</u> | <u>VA100018D400DL</u> | <u>VA100018A400DL</u> | <u>VA200060K121DL</u> | <u>VA100005A150DL</u> | <u>VA100014A300DL</u> |
| <u>VA100005D150DL</u> | <u>VA100003A100DL</u> | <u>VA100005D150RL</u> | <u>VA100014D300RL</u> | <u>VA100018D400RL</u> | <u>VA100030D650RL</u> |
| <u>VA100003A100RL</u> | <u>VA100003D100RL</u> | <u>VA100005A150RL</u> | <u>VA100014A300RL</u> | <u>VA100018A400RL</u> | <u>VA100048D101RL</u> |
| <u>VA200060K121RL</u> | <u>VA100003D100D</u> | <u>VA100026D580BL</u> | <u>VA100018D400R</u> | <u>VA100005A150BL</u> | <u>VA100005D150D</u> |
| <u>VA100048D101TL</u> | <u>VA200060K121D</u> | <u>VA100030D650R</u> | <u>VA100005A150R</u> | <u>VA100014D300R</u> | <u>VA100005A150TL</u> |
| <u>VA100030D650D</u> | <u>VA100026D580TL</u> | <u>VA100014A300R</u> | <u>VA100003D100BL</u> | <u>VA100018A400D</u> | <u>VA100014D300D</u> |
| <u>VA100005D150TL</u> | <u>VA100003A100R</u> | <u>VA100014A300TL</u> | <u>VA100048D101R</u> | <u>VA100005D150R</u> | <u>VA100030D650BL</u> |
| <u>VA100018D400D</u> | <u>VA100005D150BL</u> | <u>VA100003A100D</u> | <u>VA100030D650TL</u> | <u>VA100048D101D</u> | <u>VA200060K121R</u> |
| <u>VA100026D580R</u> | <u>VA100014D300TL</u> | <u>VA100018A400TL</u> | <u>VA100003D100R</u> | <u>VA100005A150D</u> | <u>VA100026D580D</u> |
| <u>VA100018D400TL</u> | <u>VA100014A300D</u> | <u>VA100018A400R</u> | <u>VA100003A100TL</u> | | |