

AntennaGuard/SPV

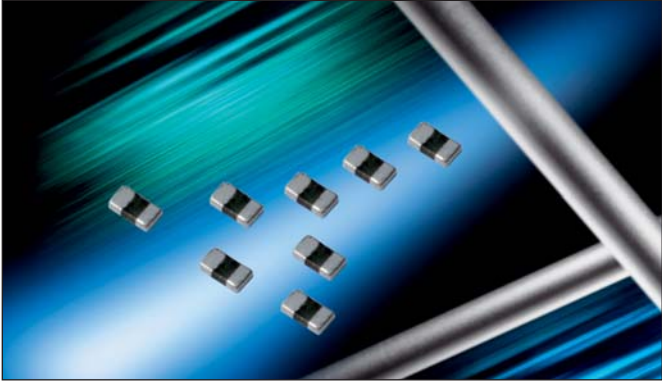


AVX Multilayer Ceramic Transient Voltage Suppressors ESD Protection for any Circuit Sensitive to Capacitance

GENERAL DESCRIPTION

AVX offers ultra-low capacitance ESD protection in the Sub 1pF range for use in circuits that are sensitive to capacitance. The Sub pF Varistor (SPV) is available in 0.8pF and 0.4pF capacitance values in a compact 0402 low profile package. SPV devices provide excellent response time to ESD strikes to protect sensitive circuits from over voltage conditions.

The development of new information processing technologies call for ever increasing digital system speeds. Higher speeds necessitate the use of ultra-low capacitance values in order to minimize signal distortion.



FEATURES

- High Reliability
- Capacitance <1pF
- Bi-Directional protection
- Fastest response time to ESD strikes
- Multi-strike capability
- Low insertion loss
- Low profile 0402 case size

APPLICATIONS

- Antennas
- Optics
- HDMI
- RF circuits
- FlexRay
- Portable devices
- Analog sensors
- Any circuit sensitive to capacitance

HOW TO ORDER

| | | | | | | | | | |
|----------------------|-------------------------------|--|--|---|------------------------------|------------|---------------------------------------|----------------------------|---------------------------------|
| VC | H4 | AG | 10 | OR8 | M | A | T | W | A |
| | | | | | | | | | |
| Varistor Chip | Chip Size Thin 0402 | Varistor Series AntennaGuard | Working Voltage 10 = 10V 15 = 15V | Capacitance OR8 = 0.8pF OR4 = 0.47pF | Tolerance M = ±20% | N/A | Termination T = Ni/Sn Alloy | Reel Size W = 7" | Reel Quantity A = 10k |

ANTENNAGUARD CATALOG PART NUMBERS/ELECTRICAL VALUES

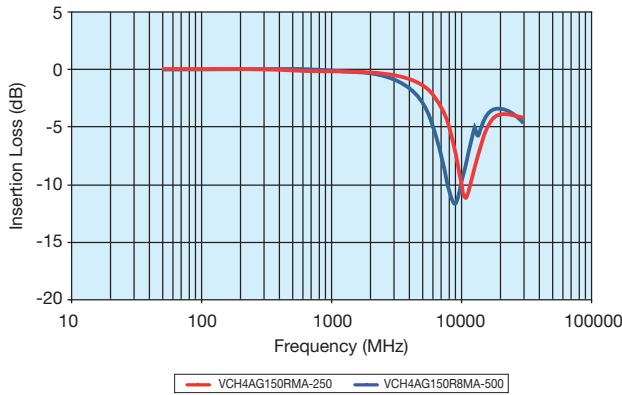
| AVX Part Number | V _w (DC) | V _B | I _L | Cap | Cap Tolerance | 3db Freq (MHz) | Case Size |
|-----------------|---------------------|----------------|----------------|-------------|---------------|----------------|-----------|
| VCH4AG100R8MA | ≤10 | 125 | <10 nA | 0.8 | ±20% | 5800 | LP 0402 |
| VCH4AG150R8MA | ≤15 | 125 | <10 nA | 0.96 pF Max | Max | 5800 | LP 0402 |
| VCH4AG150R4MA | ≤15 | 135 | <100 nA | 0.47 pF Max | ±20% | 6700 | LP 0402 |

- V_w(DC) DC Working Voltage (V)
- V_B Typical Breakdown Voltage (V @ 1mA_{DC})
- I_L Typical leakage current at the working voltage
- Cap Typical capacitance (pF) @ frequency specified and 0.5V_{RMS}
- Freq Frequency at which capacitance is measured (M = 1MHz)

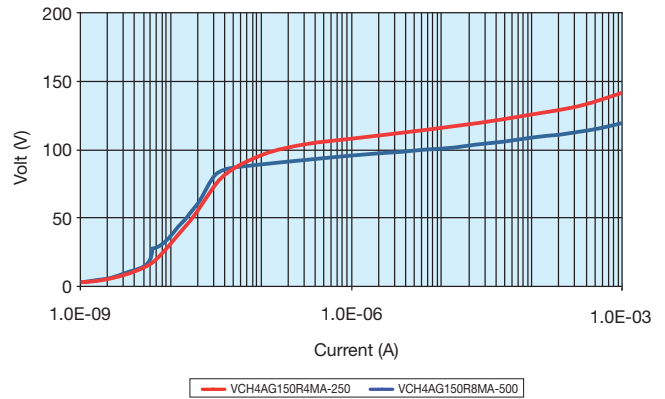


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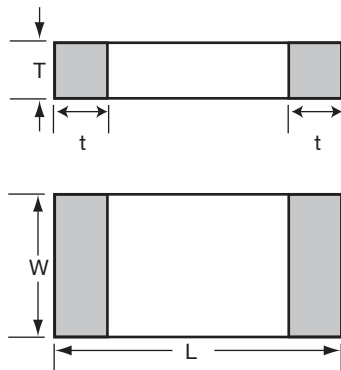
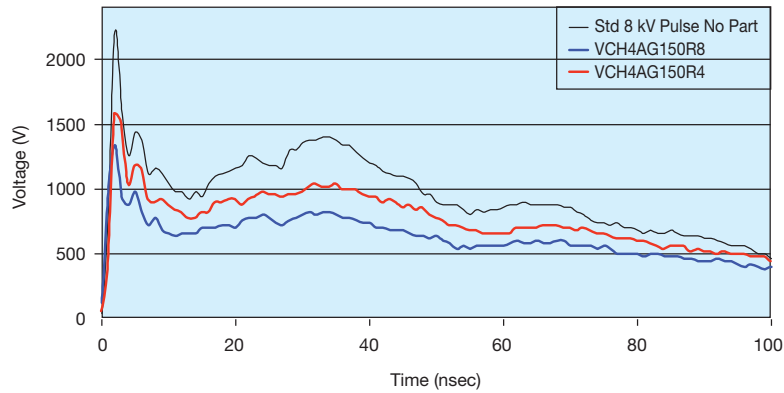
S21 Transmission Characteristics -SPV



V/I Curve - SPV



ESD Wave Absorption Characteristics



mm (inches)

| Size (EIA) | 0402 |
|-------------------|----------------------------|
| Length (L) | 1.00 ±0.10 (0.040 ± 0.004) |
| Width (W) | 0.50 ±0.10 (0.020 ±0.004) |
| Max Thickness (T) | 0.35 (0.014) |
| Terminal (t) | 0.25±0.15 (0.010±0.006) |