

# AntennaGuard Automotive Series Sub pF

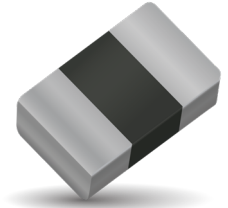
## Ultra-low Capacitance Automotive Varistor for ESD Protection for Automotive Circuits Sensitive to Capacitance



### GENERAL DESCRIPTION

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

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.



### GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to +125°C
- Working Voltage: 16Vdc
- Case Size: 0402 low profile
- Capacitance < 1pF

### 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
- AEC-Q 200 Qualified

### APPLICATIONS

- Antennas, RF circuits
- Optics
- HDMI, Firewire, Thunderbolt
- High speed communication bus
- GPS
- Camera link
- Sensors
- Touch screen interfaces
- Circuits sensitive to capacitance

### HOW TO ORDER

<b>VC</b> ↓ Varistor Chip	<b>AS</b> ↓ Automotive Series	<b>H4</b> ↓ Chip Size Low Profile 0402	<b>AG</b> ↓ Varistor Series AG Series Ultra-low Capacitance	<b>16</b> ↓ Working Voltage 16 = 16V	<b>0R8</b> ↓ Capacitance 0R8 = 0.8pF	<b>M</b> ↓ Tolerance M = ±20%	<b>A</b> ↓ N/A	<b>T</b> ↓ Termination T = Ni Barrier/ 100% Sn	<b>W</b> ↓ Reel Size W = 7"	<b>A</b> ↓ Reel Quantity A = 10k
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### ANTENNAGUARD CATALOG PART NUMBERS/ELECTRICAL VALUES

Part Number	V <sub>w</sub> (DC)	V <sub>B</sub>	I <sub>L</sub>	Cap	Cap Tolerance	3db Freq (MHz)	Case Size
VCASH4AG160R8MA	≤16	125	1	0.8	±20%	5800	LP 0402

V <sub>w</sub> (DC)	DC Working Voltage (V)
V <sub>B</sub>	Typical Breakdown Voltage (V @ 1mA DC)
I <sub>L</sub>	Typical leakage current at the working voltage
Cap	Typical capacitance (pF) @ frequency specified and 0.5V <sub>RMS</sub>
Freq	Frequency at which capacitance is measured (M = 1MHz)

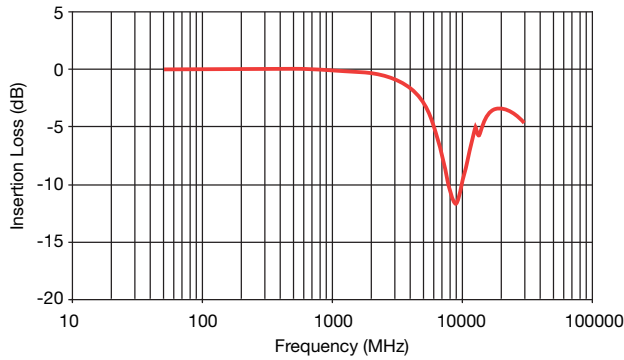


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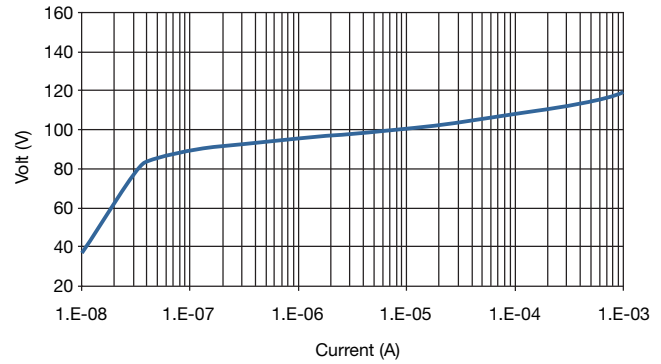
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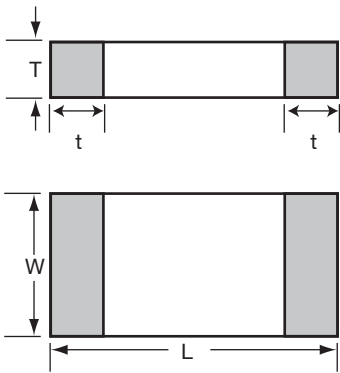
### S21 TRANSMISSION CHARACTERISTICS -SPV



### V/I CURVE - SPV



### DIMENSIONS



**mm (inches)**

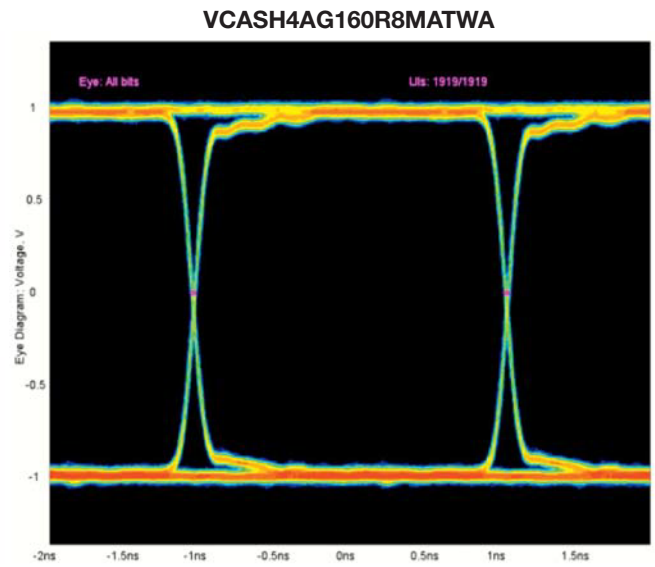
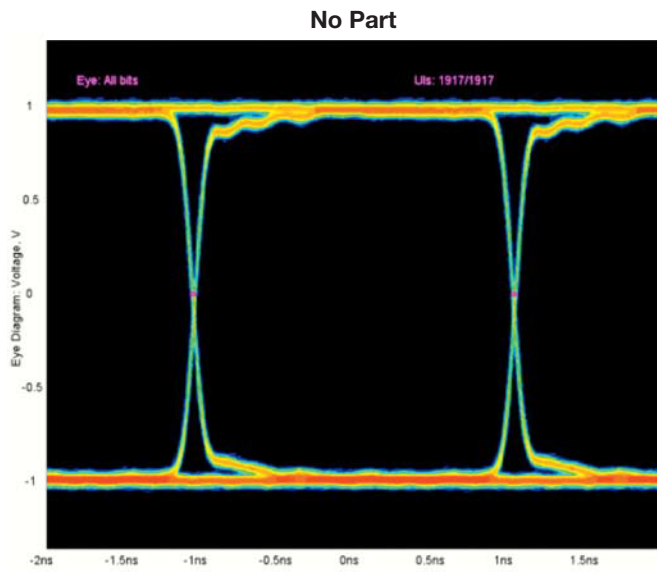
Size (EIA)	0402
Length (L)	1.00 ± 0.10 (0.040 ± 0.004)
Width (W)	0.50 ± 0.10 (0.020 ± 0.004)
Max Thickness (T)	0.35 (0.014)
Terminal (t)	0.25 ± 0.15 (0.010 ± 0.006)

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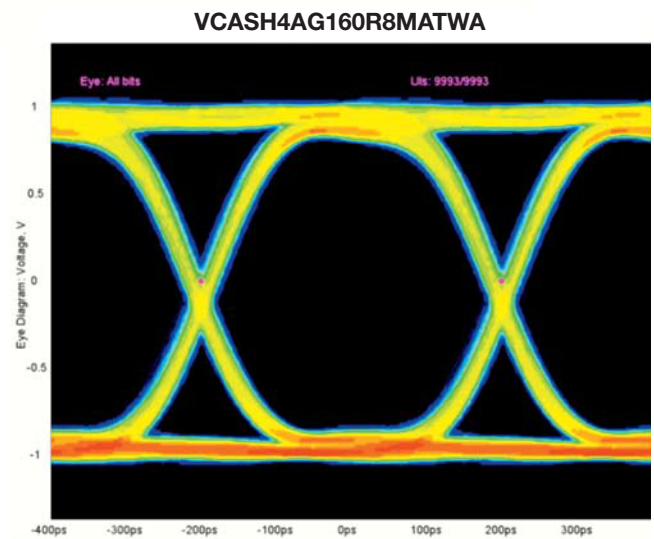
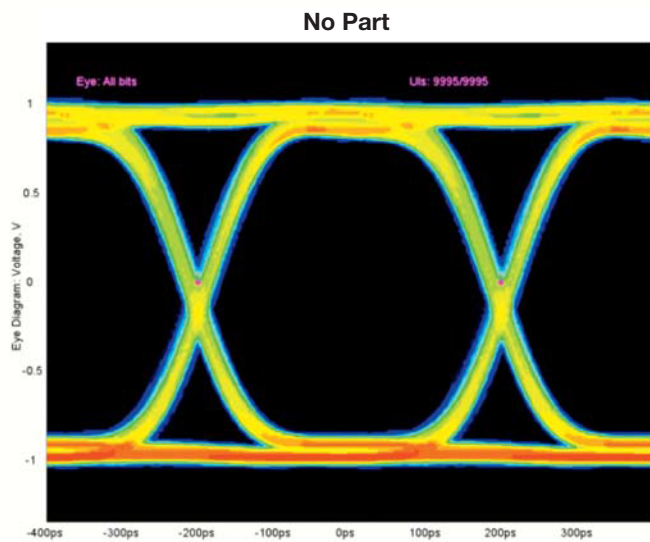
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### EYE DIAGRAM - USB-HS (480MHZ) TEST



### EYE DIAGRAM - PCI-E (2.5GHZ) TEST



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