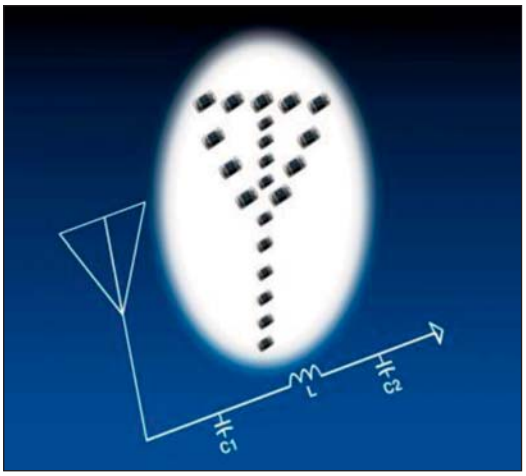
# AntennaGuard 0402/0603 Automotive Series

## AVX Low Capacitance Automotive Varistors
## ESD Protection for Automotive Circuits Sensitive to Capacitance




## GENERAL DESCRIPTION

AVX 0402/0603 Automotive AntennaGuard products are an ultra low capacitance extension to the Automotive TransGuard® Series and are intended for use in RF and other capacitance sensitive circuits.

These low capacitance values have low insertion loss, low leakage current and unsurpassed reliability compared to diode options. These advantages combined with size advantages and bi-directional protection make the AntennaGuard the right choice for automotive applications including RF circuits, sensors, high-speed signal transmission lines, etc…

RoHS COMPLIANT

## GENERAL CHARACTERISTICS

- Operting Teperature: -55°C to +125°C
- Working Voltage: ≤18Vdc
- Case Size: 0402, 0603

## FEATURES

- AEC Q200 Qualified
- 25kV ESD rating
- Meet 27.5Vdc Jump Start requirements
- Multi-strike capability
- Sub 1nS response to ESD strike

## APPLICATIONS

- RF Circuit
- Sensors
- Antennas
- Data lines
- Keyless entry
- Capacitance sensitive applications

## HOW TO ORDER

| VC | AS | 06 | AG | 18 | 3R0 | Y | A | T | 1 | A |
|---|---|---|---|---|---|---|---|---|---|---|
| **Varistor Chip** | **Series** AS = Automotive | **Case Size** 04 = 0402 06 = 0603 | **Type** | **Working Voltage** 18 = 18.0VDC | **Capacitance** 2R0 = 2pF 3R0 = 3pF 120 = 12pF | **Non-Std Cap Tol** C = ±0.25pF (2R0) Y = Max (for 3pF) Y = +4/-2pF (for 12pF) | **Not Applicable** | **Termination** T = Ni/Sn Plated | **Reel Size** 1 = 7" reel 3 = 13" reel W = 7" reel (0402 only) | **Reel Qty** A = 4K or 10K pcs (i.e.: 1A = 4,000 3A = 10,000 WA = 10,000) |

## ELECTRIAL CHARACTERISTICS

| AVX Part Number | $V_W$ (DC) | $V_W$ (AC) | $I_L$ | Cap | Cap Tolerance | $V_{Jump}$ | Case Size |
|---|---|---|---|---|---|---|---|
| VCAS04AG183R0YAT_ _ | ≤ 18 | ≤ 14 | 0.1 | 3 | Max | 27.5 | 0402 |
| VCAS06AG182R0CAT_ _ | ≤ 18 | ≤ 14 | 0.1 | 2 | ±0.25pF | 27.5 | 0603 |
| VCAS06AG183R0YAT_ _ | ≤ 18 | ≤ 14 | 0.1 | 3 | Max | 27.5 | 0603 |
| VCAS06AG18120YAT_ _ | ≤ 18 | ≤ 14 | 0.1 | 12 | +4, -2pF | 27.5 | 0603 |

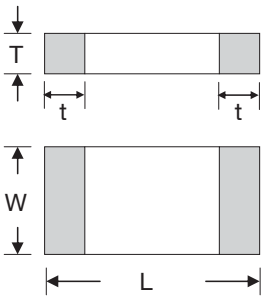
Termination Finish Code
Packaging Code

| | |
|---|---|
| $V_W$ (DC) | DC Working Voltage (V) |
| $V_W$ (AC) | AC Working Voltage (V) |
| $I_L$ | Maximum Leakage Current at the Working Voltage (μA) |
| Cap | Maximum Capacitance (pF) @ 1 MHz and 0.5 Vrms; VC06AG18120YAT capacitance tolerance: +4, -2pF |
| $V_{Jump}$ | Jump Start (V) |

# AntennaGuard 0402/0603 Automotive Series

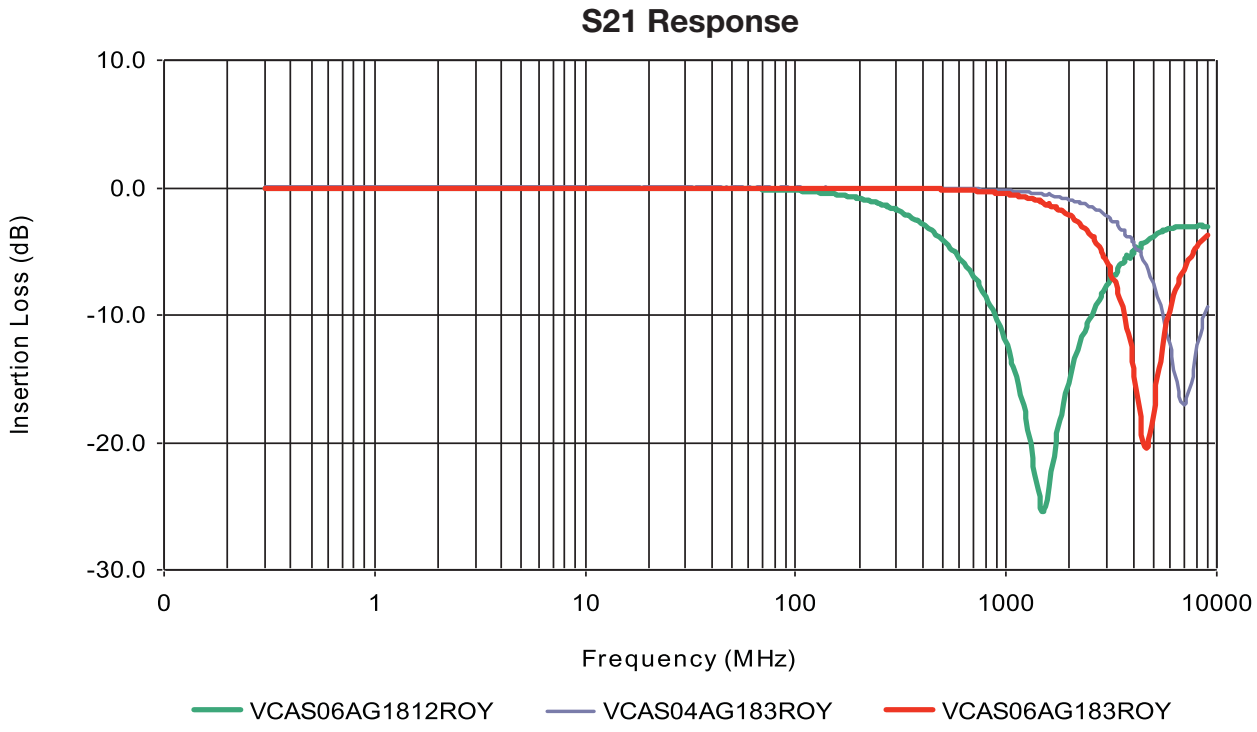
## AVX Low Capacitance Automotive Varistors
## ESD Protection for Automotive Circuits Sensitive to Capacitance

### PHYSICAL DIMENSIONS: mm (inches)

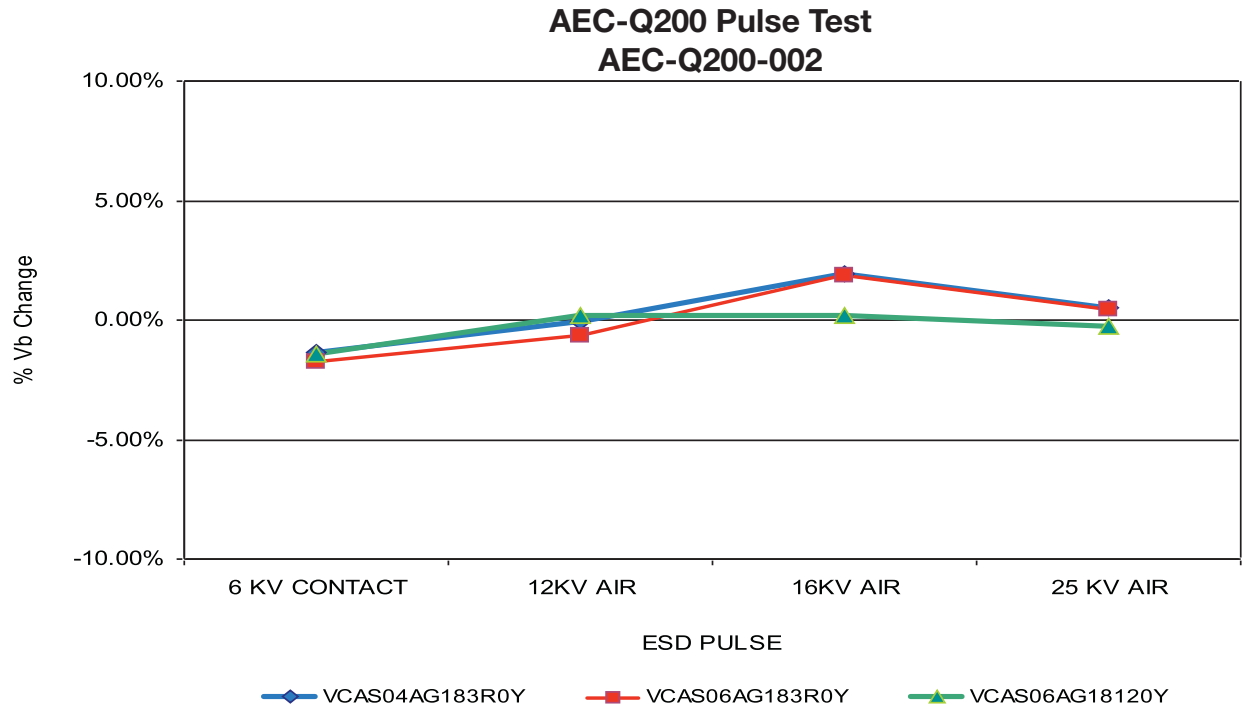



| Size (EIA) | Length (L) | Width (W) | Max Thickness (T) | Land Length (t) |
|---|---|---|---|---|
| 0402 | 1.00±0.10<br>(0.040±0.004) | 0.50±0.10<br>(0.020±0.004) | 0.60<br>(0.024) | 0.25±0.15<br>(0.010±0.006) |
| 0603 | 1.60±0.15<br>(0.063±0.006) | 0.80±0.15<br>(0.031±0.006) | 0.90<br>(0.035) | 0.35±0.15<br>(0.014±0.006) |

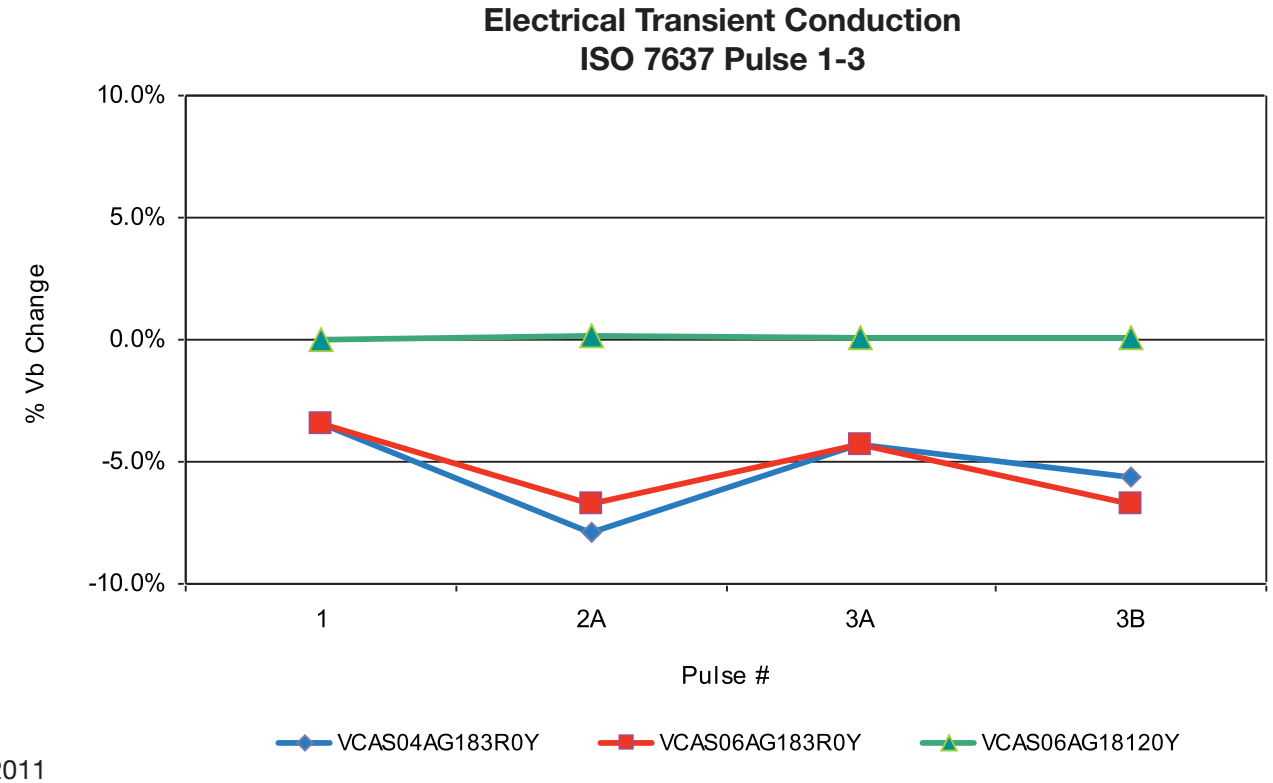
### S21 TRANSMISSION CHARACTERISTICS



## ESD CHARACTERISTICS




## ELECTRICAL TRANSIENT CONDUCTION

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# Mouser Electronics

Authorized Distributor

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

AVX:

VCAS04AG183R0YATWA VCAS06AG18120YAT1A VCAS06AG183R0YAT1A