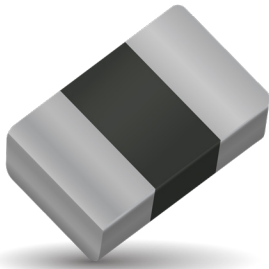


Antenna PowerGuard

AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance



GENERAL DESCRIPTION

AVX Antenna PowerGuard products are an ultra low capacitance extension of reliable AntennaGuard range with new voltage, capacitance and energy ratings. Designed for use in RF circuits, sensors, high-speed lines, optic circuits and capacitance sensitive applications.

The ability to handle larger transients makes the Antenna PowerGuard series useful in applications where capacitance sensitive circuit needs to be protected against higher energy and AEC-Q200 qualification allows for use in automotive applications.

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 Antenna PowerGuard the right choice for automotive and general applications, that are sensitive to capacitance.

GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to +150°C
- Case Size: 0402, 0603
- Working Voltage: 18 - 70Vdc
- Capacitance: 1.5 - 4.7pF
- Energy: 0.02 - 0.04J
- Peak Current: 1 - 3A

FEATURES

- AEC-Q200 Qualified
- 25kV ESD rating
- Meet 48Vdc Jump Start requirements
- Multi-strike capability
- Sub 1nS response to ESD strike

APPLICATIONS

- RF Circuit
- Sensors
- Antennas
- Data lines
- Radars
- Bluetooth
- Ethernet (IEEE 802.3bw and IEEE 802.3bp) VCAS06AP303R3LAT

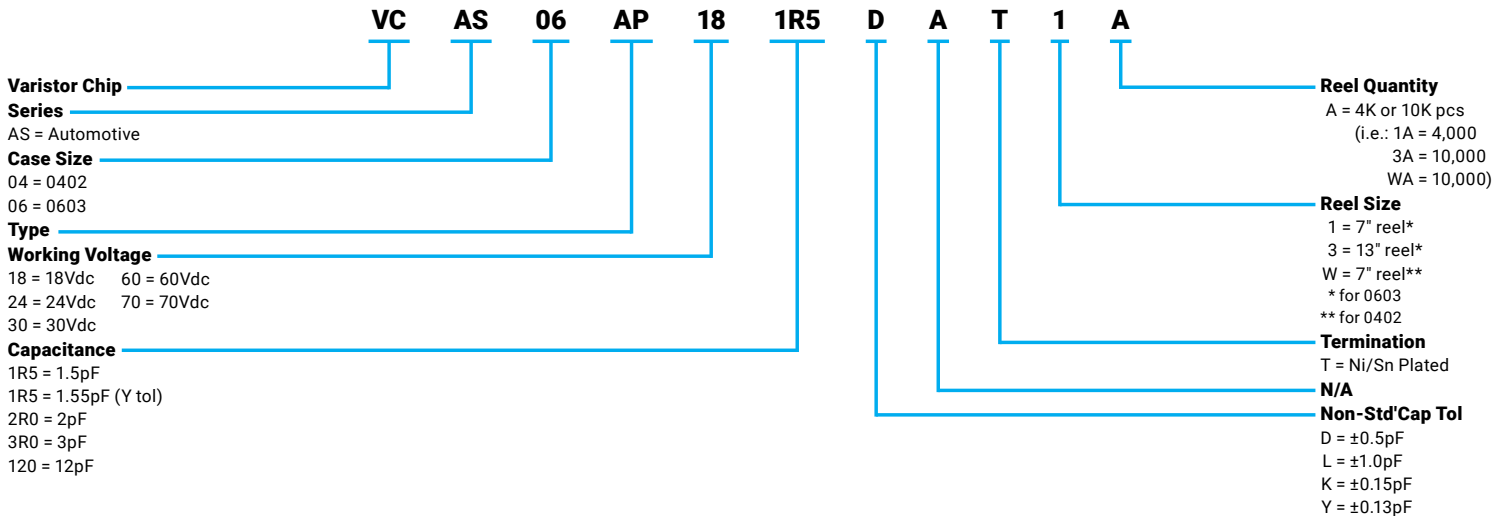
AVX is an adopting member of the OPEN Alliance to collaborate with other technology providers and the customers to further develop and standardize Ethernet-based networks in Automotive applications.

The following parts are fully compliant and qualified for OPEN Alliance Ethernet standards:

- 1000BASE-T1 Ethernet: VCAS04AP701R5YATWA
- 100BASE-T1 Ethernet: VCAS04AP704R7LATWA

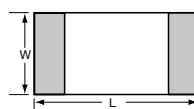
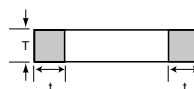


HOW TO ORDER



PHYSICAL DIMENSIONS: MM (INCHES)

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



Antenna PowerGuard

AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance



ELECTRIAL CHARACTERISTICS

| AVX Part Number | V _w (DC) | V _w (AC) | V _B | V _C | I _L | E _T | I _P | Cap | Cap Tolerance | V _{Jump} | Case Size |
|------------------|---------------------|---------------------|----------------|----------------|----------------|----------------|----------------|------|---------------|-------------------|-----------|
| VCAS04AP181R5KAT | 18 | 14 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.15pF | 48 | 0402 |
| VCAS04AP181R5DAT | 18 | 14 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS04AP181R5YAT | 18 | 14 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.55 | ±0.13pF | 48 | 0402 |
| VCAS04AP182R0LAT | 18 | 14 | 80-140 | 300 | 0.1 | 0.02 | 1 | 2.0 | ±1.0pF | 48 | 0402 |
| VCAS06AP181R5DAT | 18 | 14 | 150-200 | 375 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0603 |
| VCAS06AP182R0LAT | 18 | 14 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS06AP243R3LAT | 24 | 17 | 90-150 | 240 | 0.1 | 0.04 | 3 | 3.3 | ±1.0pF | 48 | 0603 |
| VCAS04AP301R5KAT | 30 | 21 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.15pF | 48 | 0402 |
| VCAS04AP301R5DAT | 30 | 21 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS04AP301R5YAT | 30 | 21 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.55 | ±0.13pF | 48 | 0402 |
| VCAS06AP302R0LAT | 30 | 21 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS06AP303R3LAT | 30 | 21 | 90-150 | 240 | 0.1 | 0.04 | 3 | 3.3 | ±1.0pF | 48 | 0603 |
| VCAS04AP601R5DAT | 60 | 42 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS06AP602R0LAT | 60 | 42 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS04AP701R5KAT | 70 | 52 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.15pF | 48 | 0402 |
| VCAS04AP701R5DAT | 70 | 52 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS04AP701R5YAT | 70 | 52 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.55 | ±0.13pF | 48 | 0402 |
| VCAS04AP704R7LAT | 70 | 52 | 90-110 | 190 | 1 | 0.03 | 1 | 4.7 | ±1pF | 48 | 0402 |

V_w (DC) DC Working Voltage [V] VB

V_w (AC) AC Working Voltage [V]

V_B Breakdown Voltage [V @ 1mA_{DC}]

V_C Clamping Voltage [V @ 1A]

I_L Maximum leakage current at the working voltage [μA]

E_T Transient Energy Rating [J, 10x1000μS]

I_P Peak Current Rating [A, 8x20μS]

Cap Capacitance [pF] @ 1MHz specified and 0.5VRMS

Cap Tol Capacitance tolerance (pF) from Typ value

V_{Jump} Jump Start (V, 5min)

Antenna PowerGuard

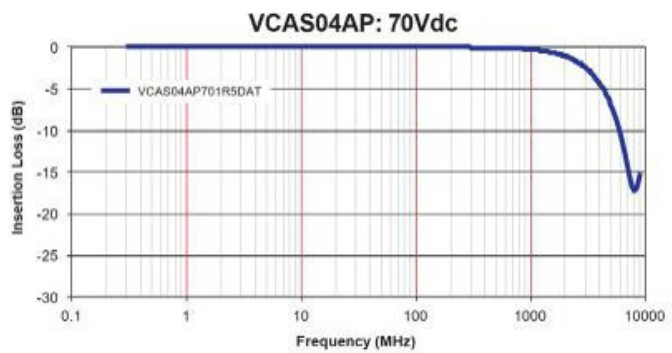
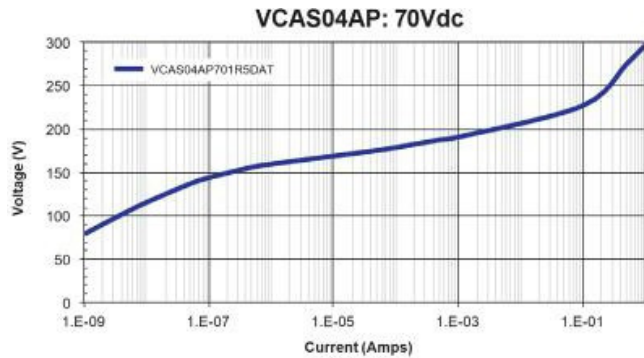
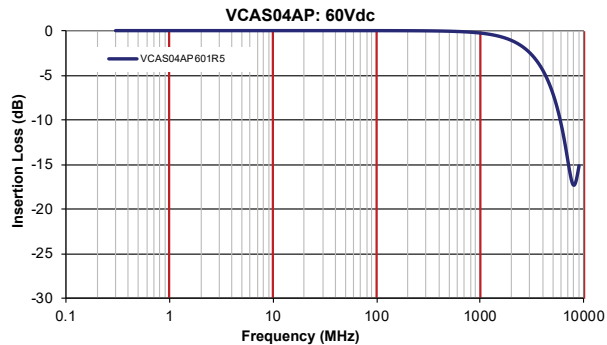
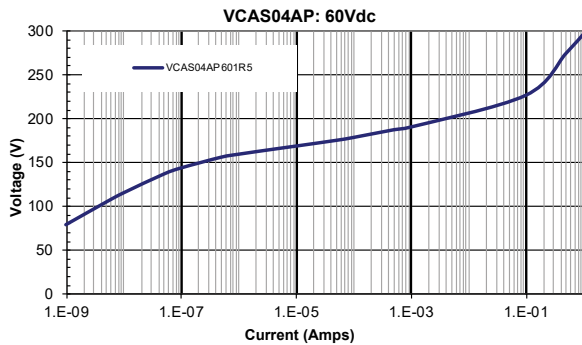
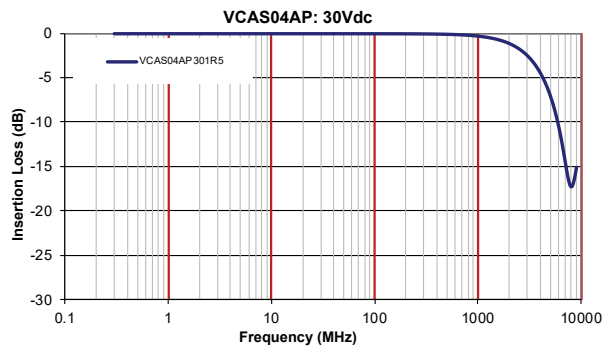
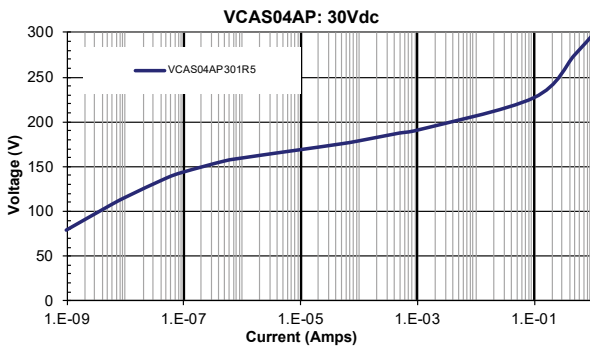
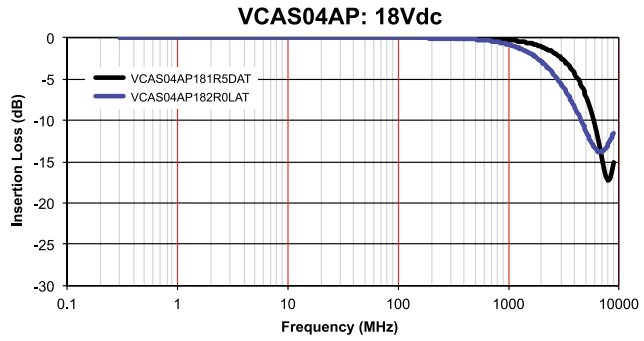
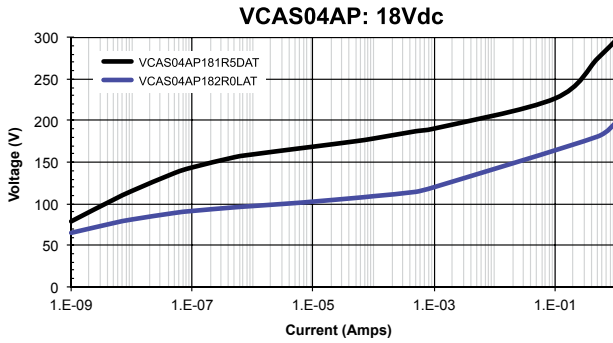
AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance



V/I CHARACTERISTICS

S21 CHARACTERISTICS



Antenna PowerGuard

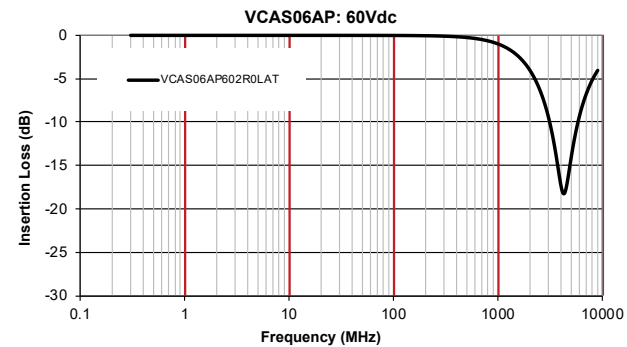
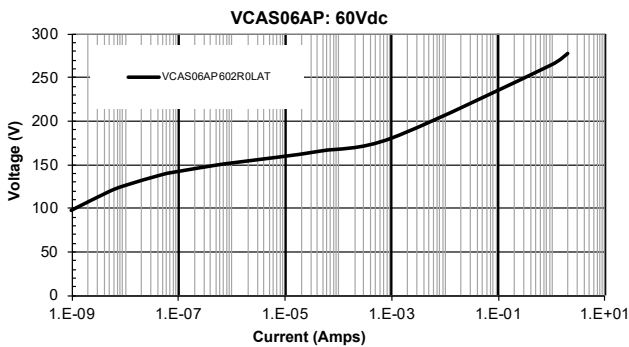
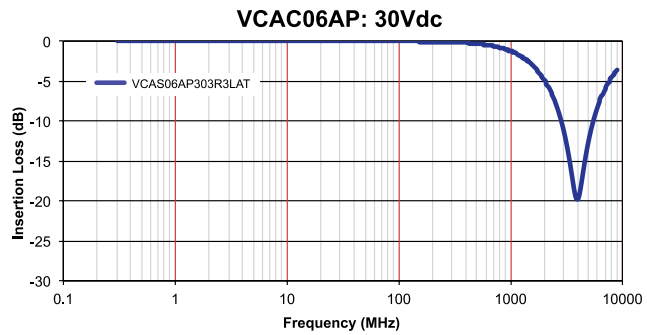
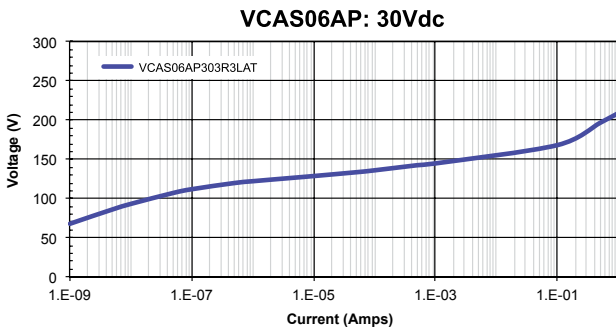
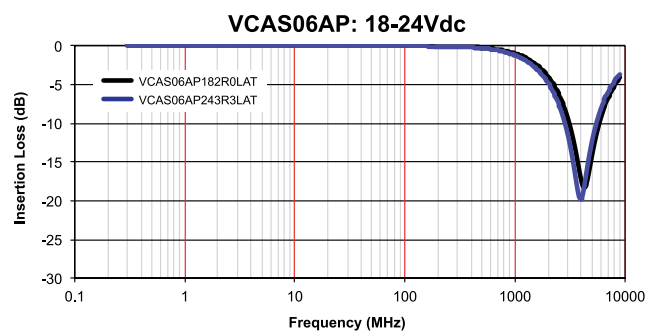
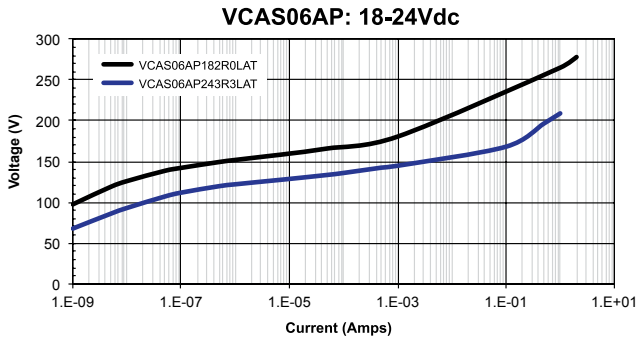
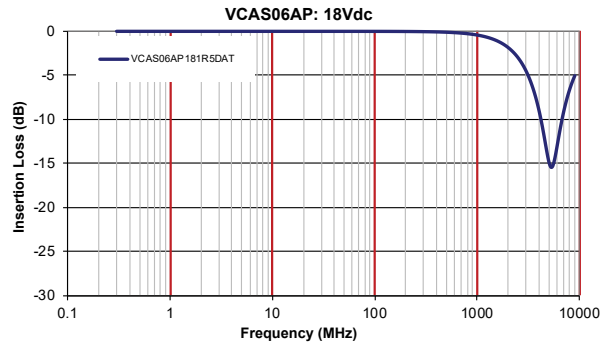
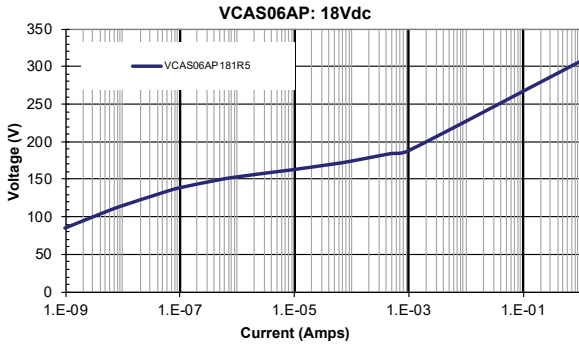
AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance



V/I CHARACTERISTICS

S21 CHARACTERISTICS



Antenna PowerGuard

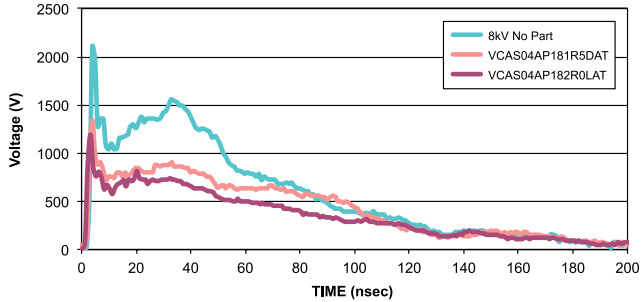
AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance

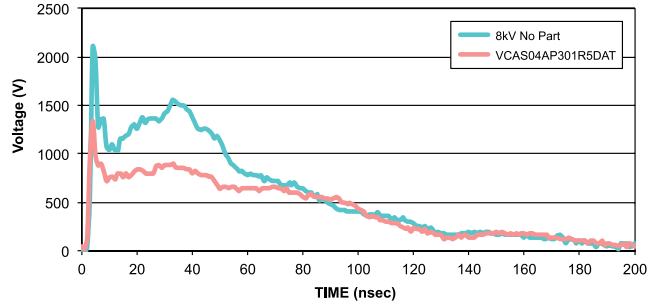


ESD CHARACTERISTIC

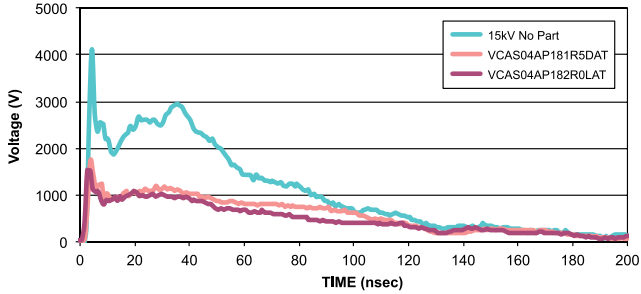
8kV ESD Vc Wave Capture
(150pF/330ohm Network)



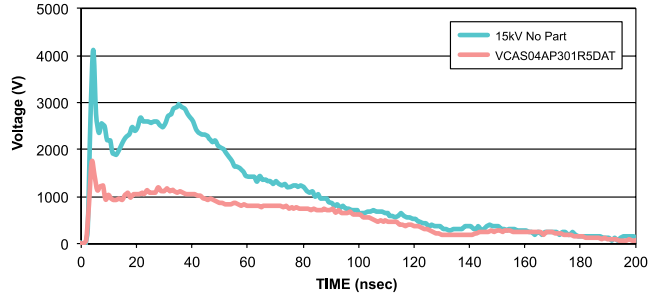
8kV ESD Vc Wave Capture
(150pF/330ohm Network)



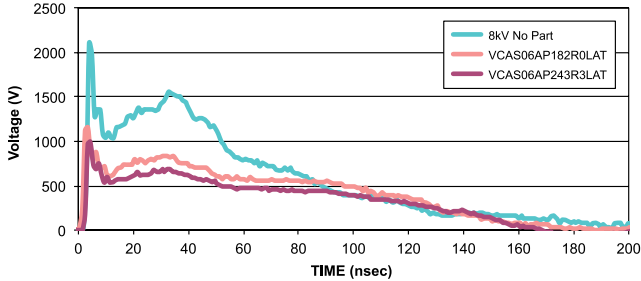
15kV ESD Vc Wave Capture
(150pF/330ohm Network)



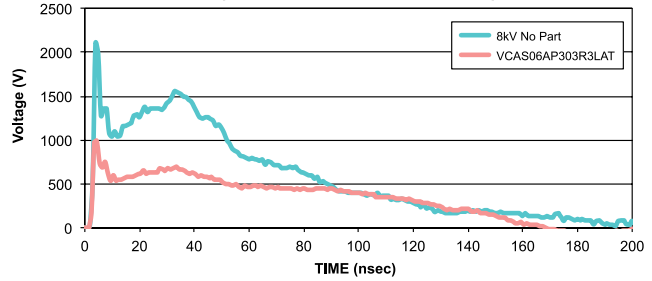
15kV ESD Vc Wave Capture
(150pF/330ohm Network)



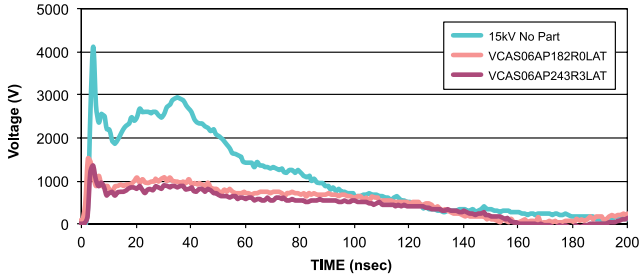
8kV ESD Vc Wave Capture
(150pF/330ohm Network)



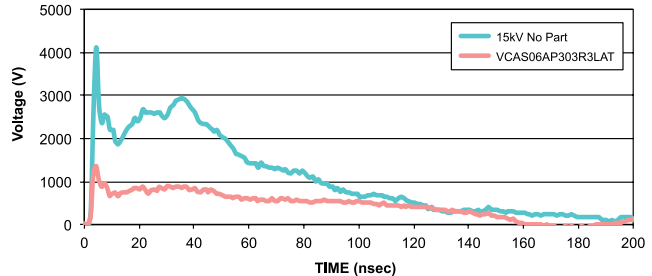
8kV ESD Vc Wave Capture
(150pF/330ohm Network)



15kV ESD Vc Wave Capture
(150pF/330ohm Network)



15kV ESD Vc Wave Capture
(150pF/330ohm Network)



单击下面可查看定价，库存，交付和生命周期等信息

[>>AVX](#)