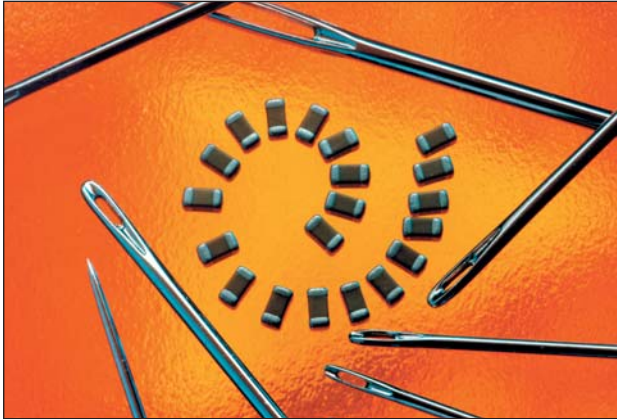


# StaticGuard Automotive Series



## Multilayer Varistors for Automotive Applications



### GENERAL DESCRIPTION

The StaticGuard Automotive Series are low capacitance versions of the TransGuard and are designed for general ESD protection of CMOS, Bi-Polar, and SiGe based systems. The low capacitance makes these products suitable for use in automotive CAN and LIN bus communication lines as well as other high speed data transmission applications requiring low capacitance protection.

### GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to 125°C
- Working Voltage:  $\leq 18\text{Vdc}$
- Case Size: 0402, 0603, 0805

### FEATURES

- AEC Q200 Qualified
- ISO 7637 Pulse 1-3 capability
- Meet 27.5Vdc Jump Start requirements
- Multi-strike capability
- Sub 1nS response to ESD strike

### APPLICATIONS

- CAN BUS
- LIN BUS
- CMOS
- Module interfaces
- Switches
- Sensors
- Camera modules
- Datalines
- Capacitance sensitive applications and more

### HOW TO ORDER

|               |                           |  |                |                                 |  |   |   |                          |
|---------------|---------------------------|--|----------------|---------------------------------|--|---|---|--------------------------|
| <b>VC</b>     | <b>AS</b>                 | <b>06</b>  | <b>LC</b>      | <b>18</b>                       | <b>X</b>   | <b>500</b>  | <b>R</b>  | <b>P</b>                 |
| Varistor Chip | Series<br>AS = Automotive | Case Size<br>04 = 0402<br>06 = 0603<br>08 = 0805 | Low Cap Design | Working Voltage<br>18 = 18.0VDC | Energy Rating<br>A = 0.10 Joules<br>V = 0.02 Joules<br>X = 0.05 Joules | Clamping Voltage<br>150 = 18V<br>200 = 22V<br>300 = 32V<br>400 = 42V<br>500 = 50V | Packaging (PCS/REEL)<br>D = 1,000<br>R = 4,000<br>T = 10,000<br>W = 0402<br>10000 | Termination<br>P = Ni/Sn |



### ELECTRIAL CHARACTERISTICS

| AVX PN         | V <sub>W</sub> (DC) | V <sub>W</sub> (AC) | V <sub>B</sub> | V <sub>C</sub> | I <sub>VC</sub> | I <sub>L</sub> | E <sub>T</sub> | I <sub>P</sub> | Cap | Freq | V <sub>JUMP</sub> | P <sub>DISS</sub> | Size |
|----------------|---------------------|---------------------|----------------|----------------|-----------------|----------------|----------------|----------------|-----|------|-------------------|-------------------|------|
| VCAS04LC18V500 | $\leq 18.0$         | $\leq 14.0$         | 25-40          | 50             | 1               | 10             | 0.02           | 15             | 40  | M    | 27.5              | 0.0004            | 0402 |
| VCAS06LC18X500 | $\leq 18.0$         | $\leq 14.0$         | 25-40          | 50             | 1               | 10             | 0.05           | 30             | 50  | M    | 27.5              | 0.001             | 0603 |
| VCAS08LC18A500 | $\leq 18.0$         | $\leq 14.0$         | 25-40          | 50             | 1               | 10             | 0.1            | 30             | 80  | M    | 27.5              | 0.002             | 0805 |

V<sub>W</sub>(DC) DC Working Voltage [V]  
V<sub>W</sub>(AC) AC Working Voltage [V]  
V<sub>B</sub> Typical Breakdown Voltage [V @ 1mA<sub>DC</sub>, 25°C]  
V<sub>C</sub> Clamping Voltage [V @ I<sub>VC</sub>]  
I<sub>VC</sub> Test Current for V<sub>C</sub> [A, 8x20µs]  
I<sub>L</sub> Maximum leakage current at the working voltage, 25°C [µA]

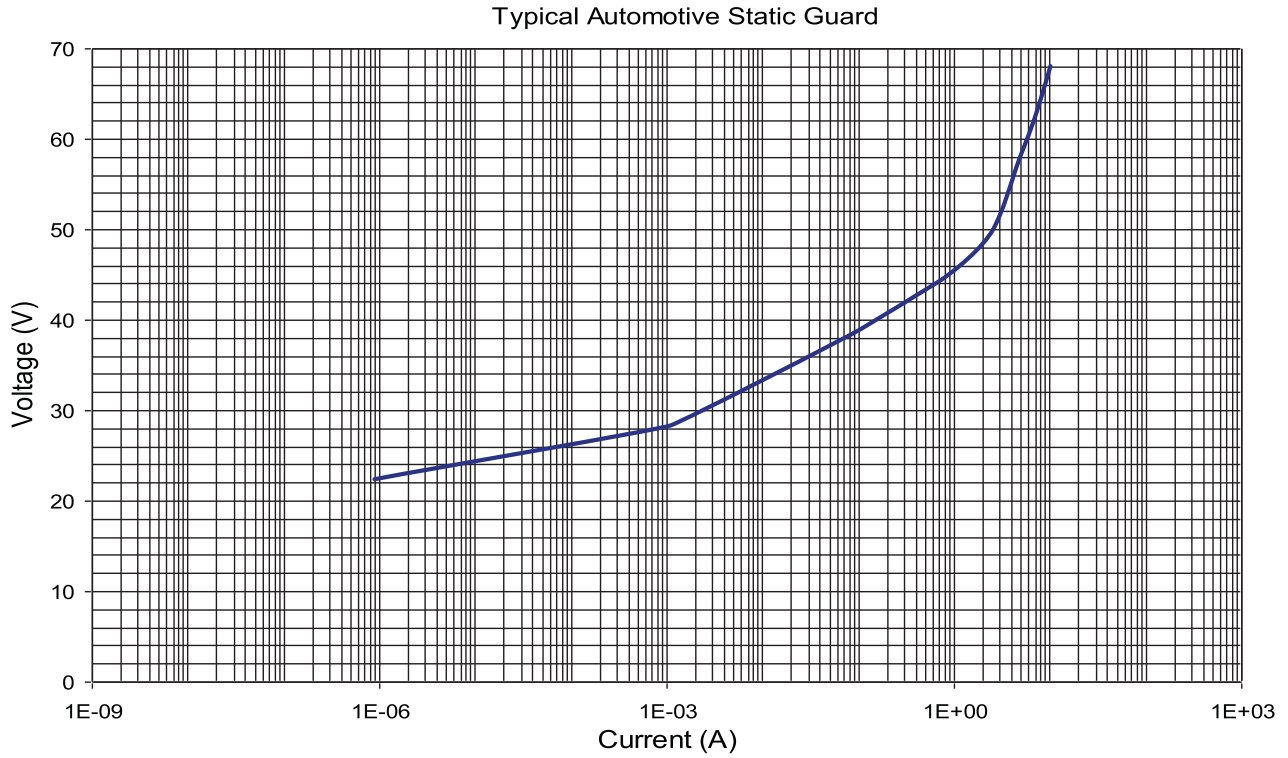
E<sub>T</sub> Transient Energy Rating [J, 10x1000µs]  
I<sub>P</sub> Peak Current Rating [A, 8x20µs]  
Cap Typical capacitance [pF] @ frequency specified and 0.5V<sub>RMS</sub>, 25°C, M = 1MHz, K = 1kHz  
V<sub>JUMP</sub> Jump Start [V, 5 min]  
P<sub>DISS</sub> Power Dissipation [W]

# StaticGuard Automotive Series

## Multilayer Varistors for Automotive Applications

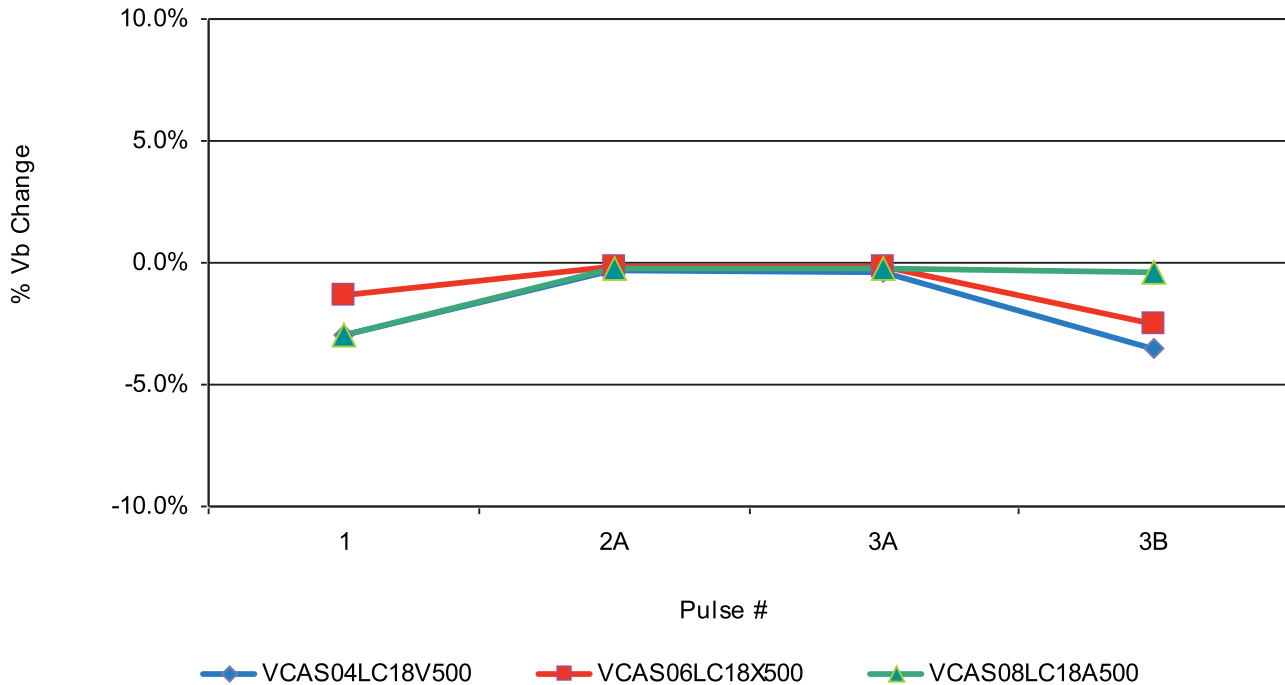


### VOLTAGE/CURRENT CHARACTERISTICS



### ELECTRICAL TRANSIENT CONDUCTION

ISO 7637 Pulse 1-3



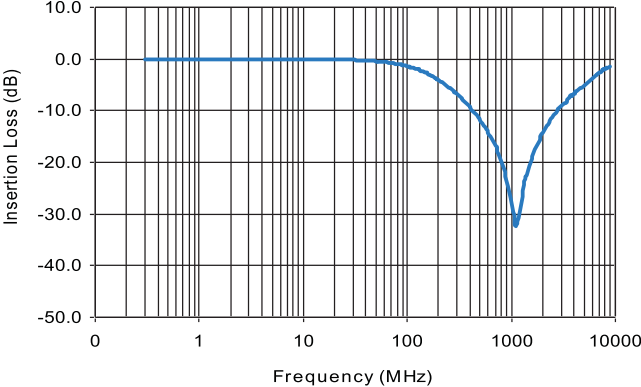
# StaticGuard Automotive Series

## Multilayer Varistors for Automotive Applications

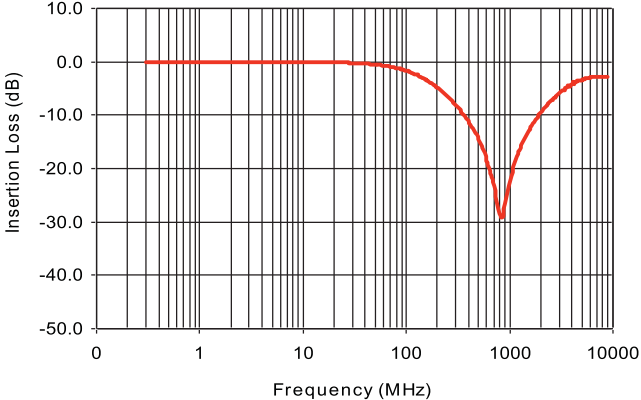


### VOLTAGE/CURRENT CHARACTERISTICS

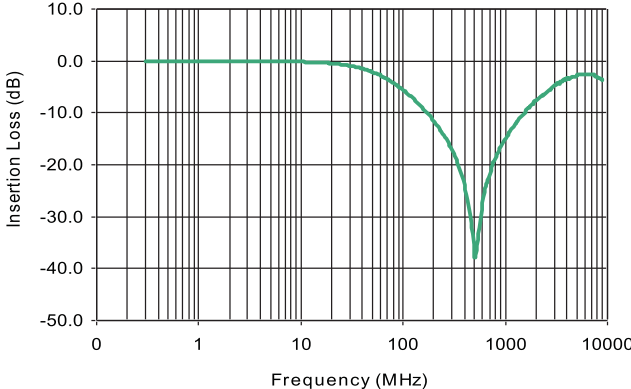
VCAS04LC18V500



VCAS06LC18X500



VCAS08LC18A500



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