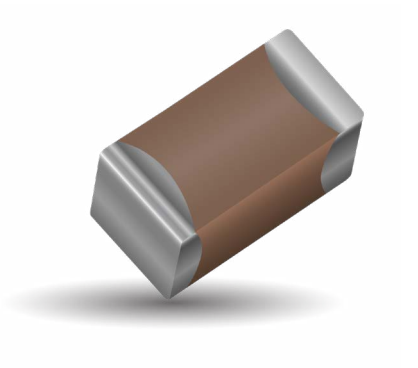
StaticGuard

Multilayer Ceramic Transient Voltage Suppressors
ESD Protection for CMOS, Bi Polar and SiGe Based Systems



GENERAL DESCRIPTION

The StaticGuard 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 high speed data transmission lines.

GENERAL CHARACTERISTICS

- Operating Temperature: -55ºC to 125ºC
- Working Voltage: ≤ 18Vdc
- Case Size: 0402, 0603, 0805, 1206

FEATURES

- Typical ESD failure voltage for CMOS and/or Bi Polar is ≥ 200V
- Low capacitance (<200pF) is required for high-speed data transmission.
- Low leakage current (IL) is necessary for battery operated equipment.
- 15kV ESD pulse (air discharge) per IEC 61000-4-2, Level 4, generates < 20 millijoules of energy.

APPLICATIONS

- Sensors
- CMOS
- SIGe based systems
- Higher speeed data lines
- Capacitance sensitive applications and more

HOW TO ORDER

VC	06	LC	18	X	500	X	P
Varistor Chip	**Case Size** 04 = 0402 06 = 0603 08 = 0805 12 = 1206	**Low Cap Design**	**Working Voltage** 18 = 18.0VDC	**Energy Rating** A = 0.10 Joules V = 0.02 Joules X = 0.05 Joules	**Clamping Voltage** 500 = 50V	**Packaging** (PCS/REEL) D = 1,000* R = 4,000* T = 10,000* W = 10,000**	**Termination** P = Ni/Sn

*Not available for 0402
**Only available for 0402

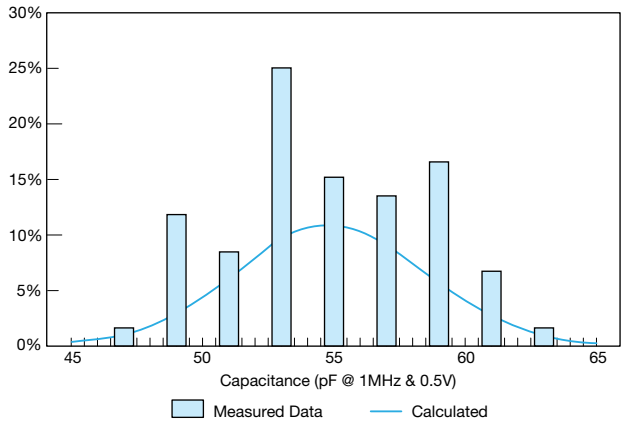
ELECTRIAL CHARACTERISTICS

Part Number	V_W (DC)	V_W (AC)	V_B	V_C	I_{VC}	I_L	E_T	I_P	Cap	Freq	Size
VC04LC18V500	≤18.0	≤14.0	25-40	50	1	10	0.02	15	40	M	0402
VC06LC18X500	≤18.0	≤14.0	25-40	50	1	10	0.05	30	50	M	0603
VC08LC18A500	≤18.0	≤14.0	25-40	50	1	10	0.1	30	80	M	0805
VC12LC18A500	≤18.0	≤14.0	25-40	50	1	10	0.1	30	200	K	1206

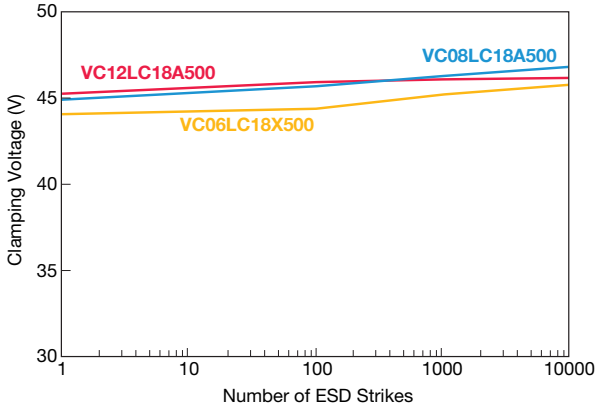
V_W(DC) DC Working Voltage [V]
V_W(AC) AC Working Voltage [V]
V_B Typical Breakdown Votage (Min-Max) [V @ 1mA$_{DC}$, 25°C]
V_C Clamping Voltage [V @ I_{IVC}]
I_{VC} Test Current for V_C [A, 8x20µs]
I_L Maximum leakage current at the working voltage, 25°C [µA]
E_T Transient Energy Rating [J, 10x1000µS]
I_P Peak Current Rating [A, 8x20µS]
Cap Typical capacitance [pF] @ frequency specified and 0.5V_{RMS}, 25°C, K = 1kHz, M = 1MHz

TYPICAL PERFORMANCE DATA

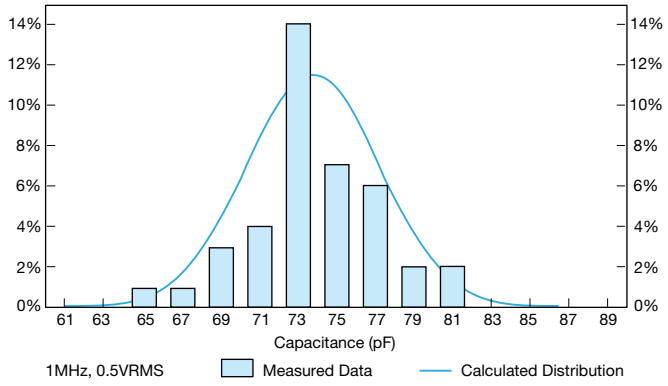
VC06LC18X500 Capacitance Histogram



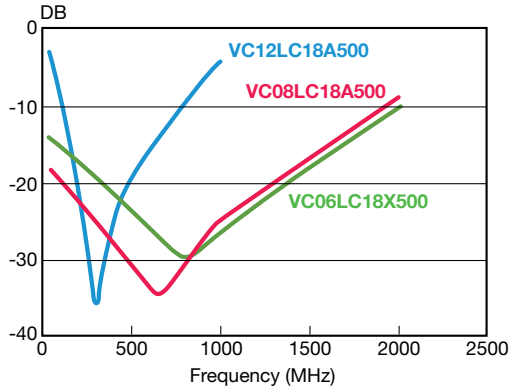
StaticGuard ESD RESPONSE
IEC 61000-4-2 (8 Kv Contact Discharge)



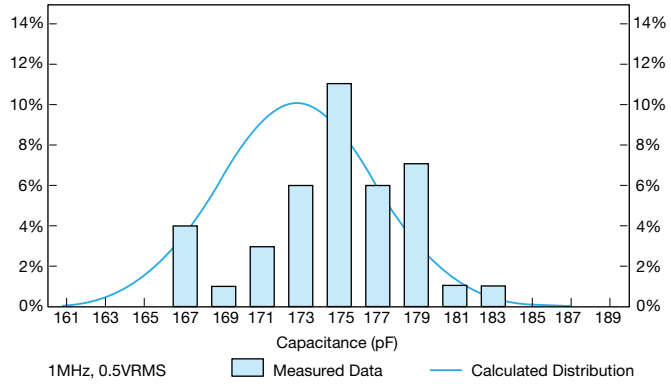
VC08LC18A500 Capacitance Histogram



StaticGuard S21



VC12LC18A500 Capacitance Histogram



VI Curves - StaticGuard Products