

COAXIAL PROTECTOR



DESCRIPTION

The CX12 series is a two stage, hybrid surge protector designed to protect interfacing equipment from induced lightning or switching transients. The multistage technique has proven to be the most cost effective and reliable method for protecting sensitive electronic equipment. Employing state-of-the-art avalanche junction diode technology, these devices provide superior performance for video, Ethernet, Token Ring or other LAN interface systems. They are in-line modules with easy interconnecting terminals. A completely enclosed aluminum housing provides EMC shielding to meet industry standard requirements. The enclosure has two female BNC type connections for easy installation. The case is grounded for those installations that require external ground connections.

FEATURES

- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20 μ s, Level 2(Line-Gnd) Level 3 (Line-Line)
- BNC Connection
- Low Capacitance
- Completely Enclosed Aluminum Housing
- Low Clamping Voltage
- Nanosecond Response Time
- Long Life and Maintenance Free
- Finger Safe Connectors
- Fully Shielded Case

APPLICATIONS

- High Speed Video Camera
- Coaxial Ethernet
- High Speed Data Lines

MECHANICAL CHARACTERISTICS

- Metal Package
- Approximate Weight: 161 grams

FIGURE 1
TRANSIENT VOLTAGE THREAT CONDITION

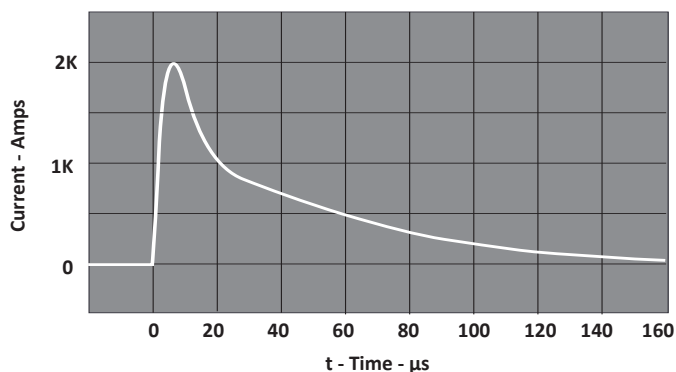
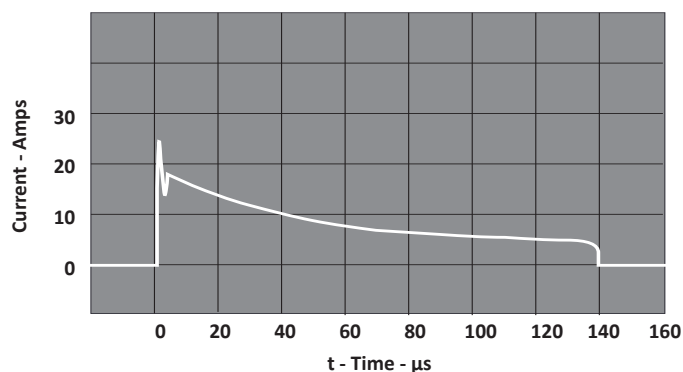


FIGURE 2
CX12LC CLAMPING VOLTAGE



Figures 1 and 2 are photographs of digitized waveforms showing the typical clamping action of a CX12LC module. The device was subjected to a 2000A, 8/20 μ s impulse waveform in accordance with ANSI C62.36. The CX12 has an operating frequency range up to 10MHz and the CX12LC has an operating frequency range up to 100MHz.

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Operating Line Voltage	V_{OP}	±12	Volts
Operating Line Current	I_O	200	mA
Transient Voltage	-	20	kV
Transient Current - 8/20µs waveform	-	3000	Amps
CX12 Frequency Response -3dB	-	30	MHz
CX12LC Frequency Response -3dB	-	200	MHz
Operating Temperature	T_A	-40 to 85	°C
Storage Temperature	T_{STG}	-40 to 85	°C
Response Time	-	< 10	ns

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified				
PART NUMBER	MAXIMUM CLAMPING VOLTAGE Line-to-Ground (8/20µs) @ 500A V_C VOLTS	MAXIMUM LINE THROUGHPUT RESISTANCE R OHMS	MAXIMUM LEAKAGE CURRENT @ V_{OP} I_D µA	TYPICAL CAPACITANCE @ 0V, 1MHz C pF
CX12	24	3	5	200
CX12LC	28	10	5	25

INSTALLATION INSTRUCTIONS

The CX12 series is designed with a female BNC type connector on both ends for easy installation. Disconnect the video or data line from the sensitive equipment. Insert the CX12 in the line near the AC power outlet of the equipment to be protected. Install a cable in between the CX12 and the equipment to be protected. Attach a ground wire between the case of the CX12 and the equipment AC power ground, or to the coax shield as required.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 3
PULSE WAVE FORM

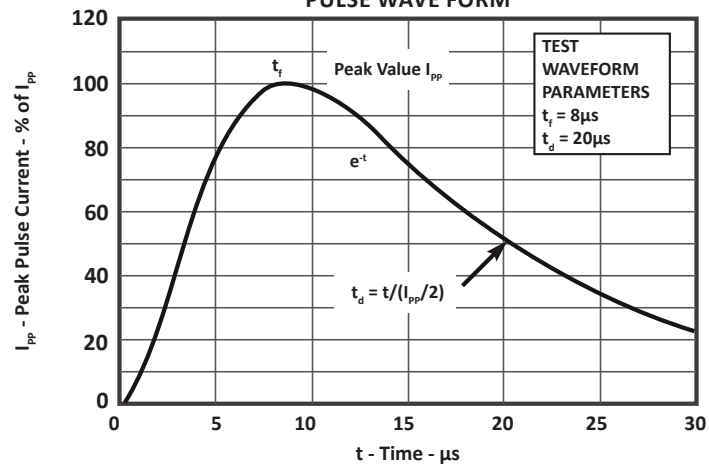
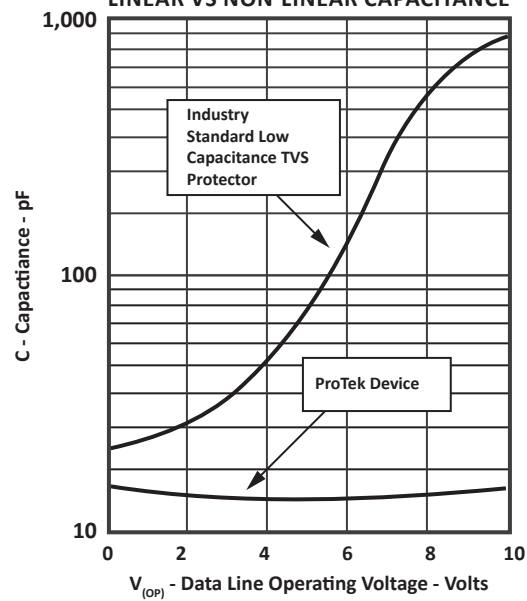
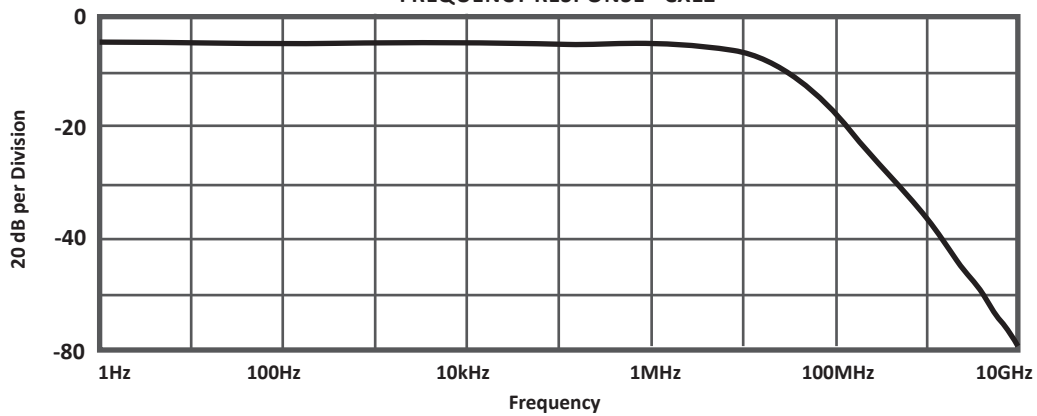
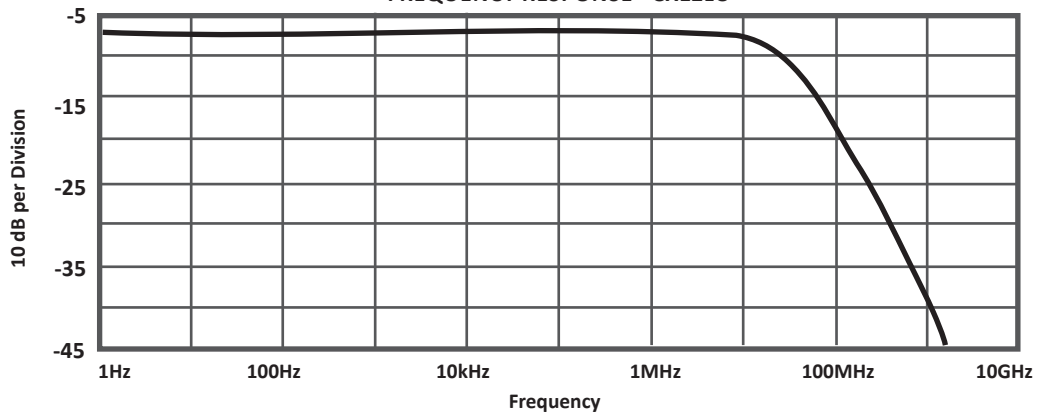


FIGURE 4
LINEAR VS NON-LINEAR CAPACITANCE

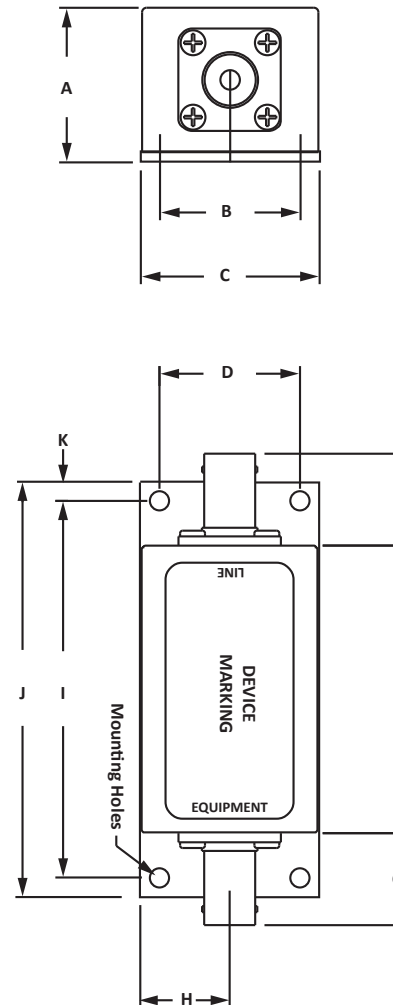


TYPICAL DEVICE CHARACTERISTICS**FIGURE 5**
FREQUENCY RESPONSE - CX12**FIGURE 6**
FREQUENCY RESPONSE - CX12LC

PACKAGE INFORMATION

OUTLINE DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	30.73	1.21
B	27.94	1.10
C	35.56	1.40
D	27.94	1.10
E	18.29	0.72
F	57.15	2.25
G	18.29	0.72
H	17.78	0.70
I	74.93	2.95
J	82.55	3.25
K	3.81	0.15

NOTES
1. Mounting holes 0.150" DIA. (3.81mm).



ORDERING INFORMATION

BASE PART NUMBER	MARKING
CX12/CX12LC	Part Number, Logo and Date Code

COMPANY INFORMATION

COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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