PROTEK DEVICES

CX12 thru CX12LC

COAXIAL PROTECTOR

APPLICATIONS

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

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line)

FEATURES

✔ 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

MECHANICAL CHARACTERISTICS

✔ Metal Package
✔ Weight: 161 Grams (Approximate)
✔ Device Marking: Part Number, Logo & Date Code

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.

CX12 PACKAGE

FIGURE 1
TRANSIENT VOLTAGE THREAT CONDITION

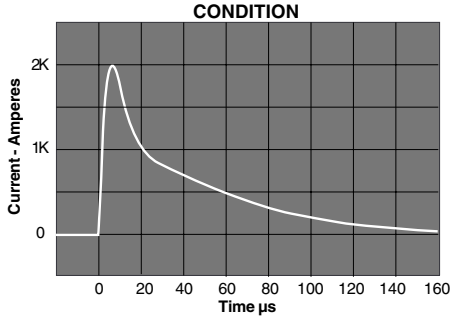
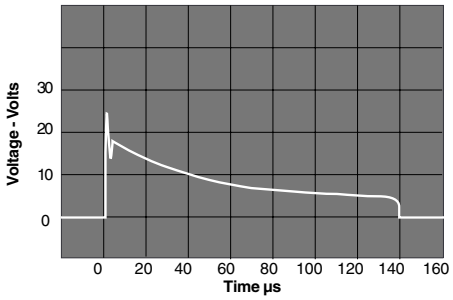


FIGURE 2
CX 12LC CLAMPING VOLTAGE



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

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C	
Peak Operating Line Voltage (V_{OP})	±12 V
Operating Line Current (I_O)	200mA
Maximum Transient Voltage	20kV
Maximum Transient Current	3000A (8/20µs)
Maximum Leakage Current	5µA
CX12 Frequency Responce -3 dB	@ 30MHz
CX12LC Frequency Responce -3 dB	@ 200MHz
Operating & Storage Temperature	-40° to +85°C
Response Time	< 10 ns

ELECTRICAL CHARACTERISTICS @ 25°C			
PART NUMBER	MAXIMUM CLAMPING VOLTAGE Line-Ground 500A @ 8/20µs V_C VOLTS	MAXIMUM LINE THRUPUT RESISTANCE R OHMS	TYPICAL CAPACITANCE @ 0V, 1 MHz C pF
CX12	24	3	200
CX12LC	28	10	25

FIGURE 4
PULSE WAVE FORM

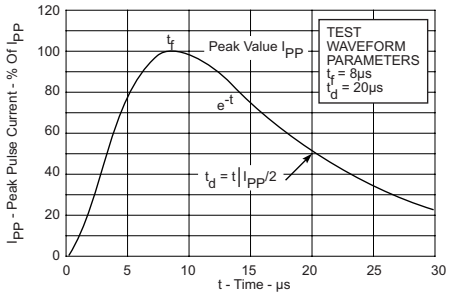


FIGURE 3
LINEAR VS NON-LINEAR CAPACITANCE

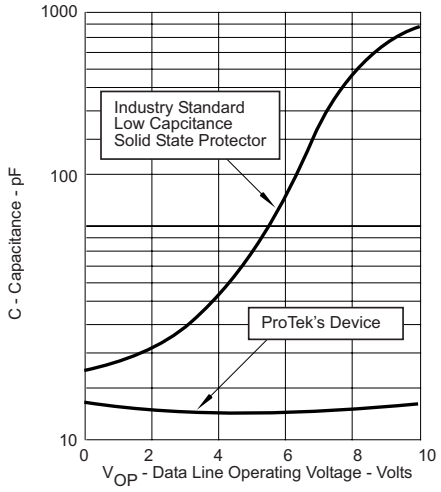


Figure 3 shows a comparison of capacitance between a industrial standard device (Top Line) and the ProTek Device CX12LC (Bottom Line). Due to the drastic change in the capacitance of the product (Top Line), signal distortion, loss of data or even access into the computer may be a problem.

FIGURE 5
FREQUENCY RESPONCE CX12

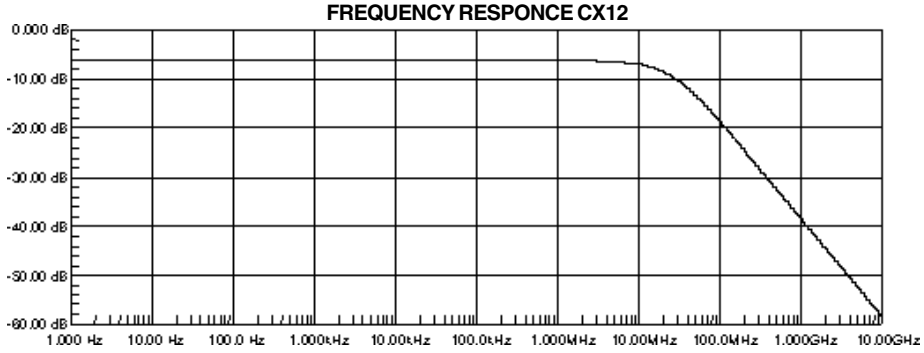
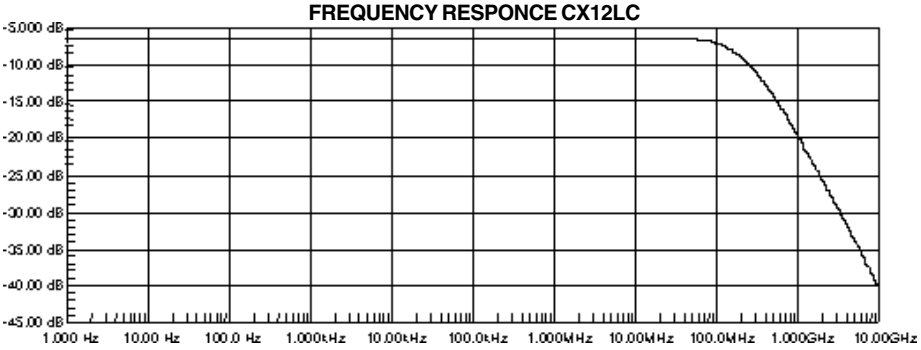
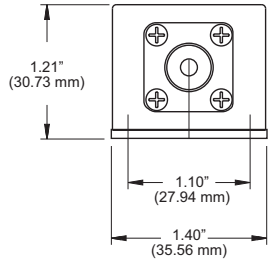
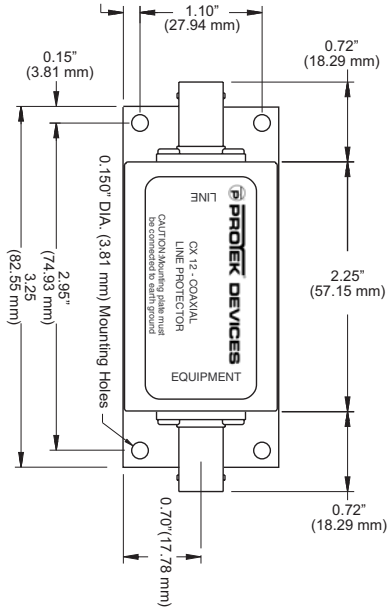


FIGURE 6
FREQUENCY RESPONCE CX12LC



PACKAGE OUTLINE & DIMENSIONS





INSTALLATION

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.

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