



Semiconductor, Inc.

EiMD05C8 thru EiMD24C8

Compact, Bidirectional, Eight Line
Monolithic TVS Diode Network

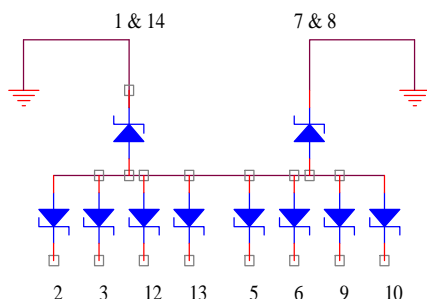
FEATURES

- Protects eight I/O lines
- Monolithic IC for higher reliability at lower cost
- Manufactured using Proprietary technology
- Transient protection for data lines to
IEC 1000-4-2 (ESD) 15kV (air), 8kV (contact)
IEC 1000-4-4 (EFT) 40A (tp = 5/50ns)
IEC 1000-4-5 (Lightning) 12A (tp = 8/20μs)
- Available in SOIC-14 Package (Surface Mount)
- Operating Voltages: 5V, 12V, 15V, 24V
- Low leakage current, Low operating and clamping voltages

DESCRIPTION

The EiMDXXC8 series of monolithic transient voltage suppressors are designed for applications where voltage transients, caused by electrostatic discharge (ESD) and other induced voltage surges, can permanently damage voltage sensitive components. These monolithic TVS diodes are characterized by their high surge capability, extremely fast response time and low on-resistance.

Schematic:



The EiMDXXC8 is designed to provide transient suppression on multiple data lines and I/O ports. The low profile SO-14 design allows the user to protect up to eight data and I/O lines with one package. The bidirectional device and may be used on lines where the normal operating voltage is above and below ground (i.e. +12V to -12V). The EiMDXXC8 TVS diode network will meet the surge requirements of IEC 1000-4-2, Level 4, "Human Body Model" for air and contact discharge.

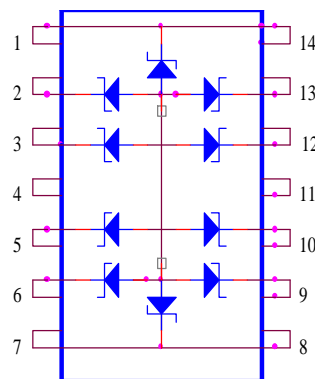
APPLICATIONS

- RS-232 & RS-422 Data Lines
- Microprocessor Based Equipment
- LAN/WAN Equipment
- Set-Top Box
- Notebooks, Desktops, & Servers
- Portable Instrumentation
- Peripherals

MECHANICAL CHARACTERISTICS

- Available in 14 lead SOIC
- Solder temperature : 265°C for 10 seconds

Pin Configuration:





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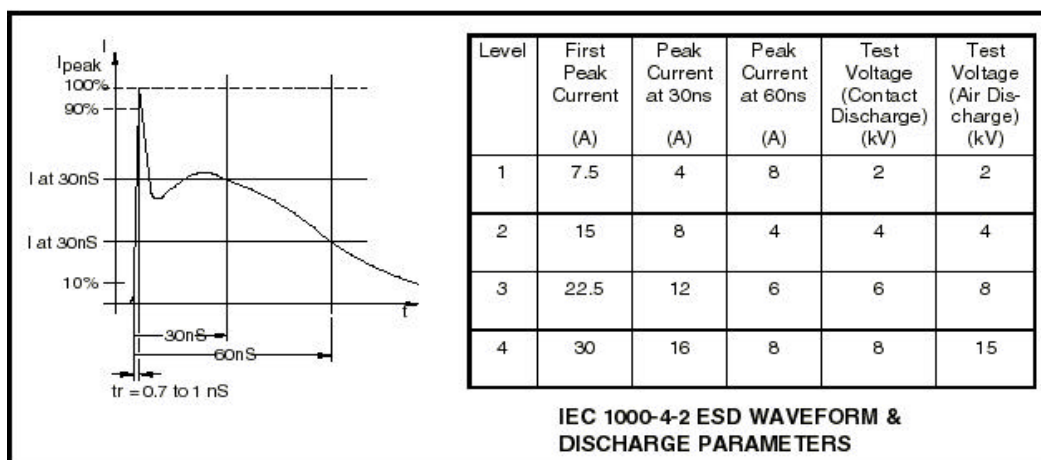
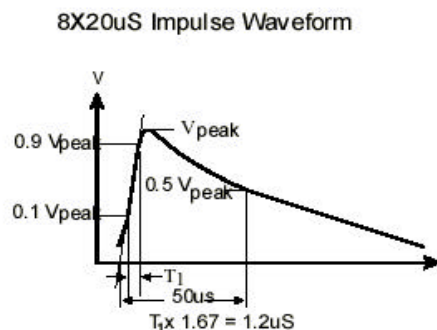
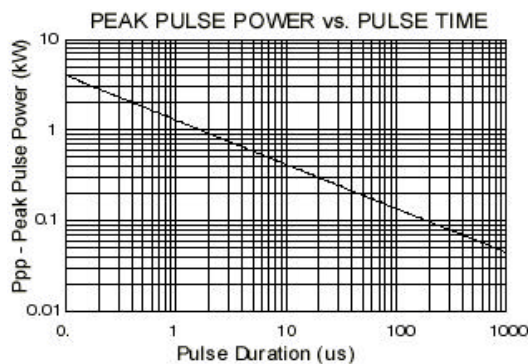
MAXIMUM RATINGS

| RATING | SYMBOL | VALUE | UNIT |
|--|--------|-------------|-------|
| Peak Pulse Power ($t_p = 8 \times 20 \mu s$) | Ppk | 300 | Watts |
| Operating Temperature | Tj | -55 to +150 | °C |
| Storage Temperature | Tstg | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS @ 25°C

| Part Number | Reverse Stand-off Voltage | Min Vbr @ 1mA | Max Clamping Voltage @ Ipp=1A | Peak Pulse Current @ $t_p = 8/20 \mu s$ | Leakage Current @ VRWM | Max. Cap. @ 0V, 1Mhz I/O to Gnd |
|-------------|---------------------------|---------------|-------------------------------|---|------------------------|---------------------------------|
| | VRWM | BV(min) | Vc | Vc | IR | Cj |
| | Volts | Volts | Volts | Volts | μA | pf |
| EiMD05C8 | 5 | 6 | 9.8 | 17 | 20 | 350 |
| EiMD12C8 | 12 | 13.3 | 16 | 12 | 1 | 120 |
| EiMD15C8 | 15 | 16.7 | 24 | 10 | 1 | 75 |
| EiMD24C8 | 24 | 26.7 | 43 | 5 | 1 | 50 |

Note : Clamping voltage values are based upon an industry standard 8 x 20 μs peak pulse current (Ipp) waveform.



4703 S. Lakeshore Dr., Suite 2, Tempe, AZ, 85282 Ph: (480) 730-1000 Fax: (480) 838-4740

Preliminary

Web Page: <http://www.epicsemi.com>