EPIC
Semiconductor, Inc.

Ei16LCXXX
Monolithic Low Capacitance TVS Diode Network

FEATURES

- 500 watts Peak Pulse Power (tp = 8x20 µs)
- ESD and Transient protection for data, signal, and Vcc bus to IEC 1000-4-2 (formerly IEC 801-2)
- Protects up to 8 bi-directional lines
- Standoff voltages from 5 to 15 V
- Low capacitance for high speed interfaces
- Low clamping voltage
- ESD protection >8kV

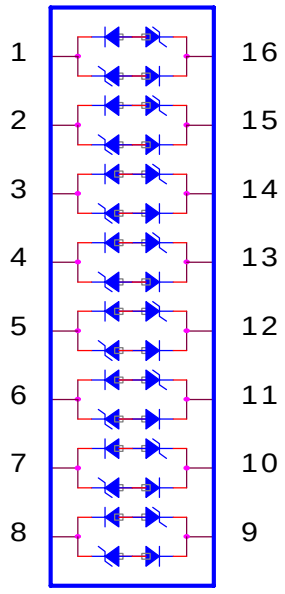
DESCRIPTION

The Ei16LC 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 TVS diodes are characterized by their high surge capability, extremely fast response time and low on-resistance. The Ei16LC series consists of bi-directional diode arrays with low input capacitances and is specifically designed to protect multiple or single data lines with each channel being electrically independent for multiple I/O port protection. These monolithic diode array networks can be used to protect combinations of 8 unidirectional or bi-directional lines. They provide ESD and surge protection for sensitive power and I/O ports. The 16LC series TVS diode array will meet the surge and ESD per IEC 1000-4-2.

Applications

- ESD & surge protection for power lines & I/O ports
- TTL and MOS Bus Lines
- RS-232, Rs-422 and RS-485 data lines
- High speed logic
- High speed data & video transmission

Schematic



MECHANICAL CHARACTERISTICS:

- Available in 16 lead SOIC and PDIP
- Solder temperature : 265℃ for 10 second

MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Peak Pulse Power (tp = 8 x 20 µs)	Ppk	300	Watts
Operating Temperature	Tj	-55 to +150	℃
Storage Temperature	Tstg	-55 to +150	℃

ELECTRICAL CHARACTERISTICS @ 25℃

	Reverse Stand-off Voltage	Min Vbr @ 1mA	Max Clamping Voltage @Ipp=1A	Max Clamping Voltage @Ipp = 10A	Leakage Current @ V_{RWM}	Max. Cap. @0V, 1Mhz
	V_{RWM}	BV(min)	Vc	Vc	I_R	Cj
	Volts	Volts	Volts	Volts	µA	pf
Ei16LC05CX	5	6	9.8	12.5	400	15
Ei16LC08CX	8	8.5	13.4	16.6	10	15
Ei16LC12CX	12	13.3	19.0	23.5	2,	15
Ei16LC15CX	15	16.7	25.5	29.5	2,	15

Note : Clamping voltage values are based upon an industry standard 8 x 20µs peak pulse current (Ipp) waveform.
X= S for SOIC package, X= P for P-Dip Package

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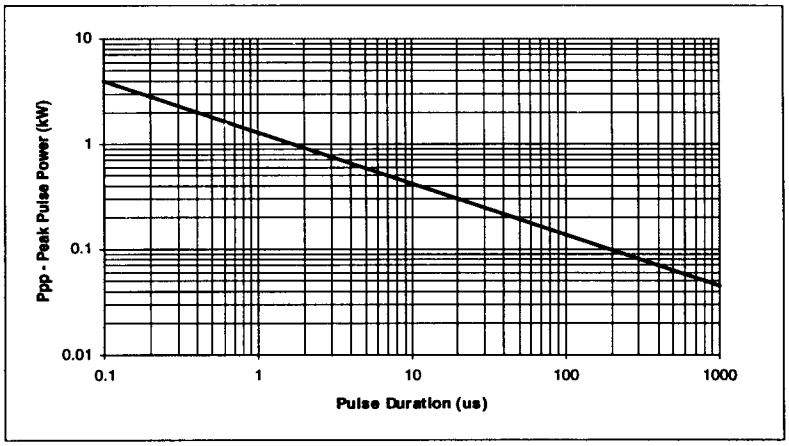
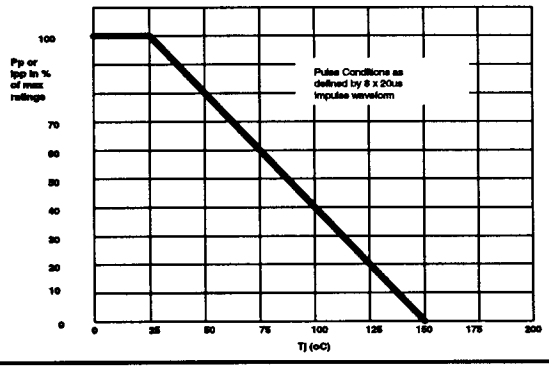
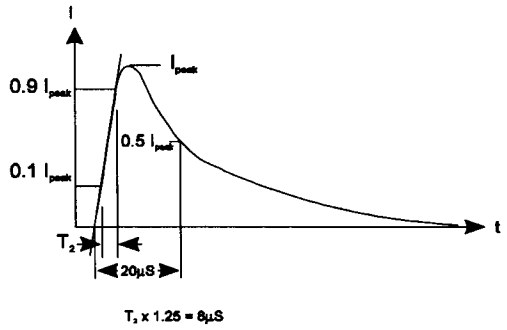
PEAK PULSE POWER vs. PULSE TIME

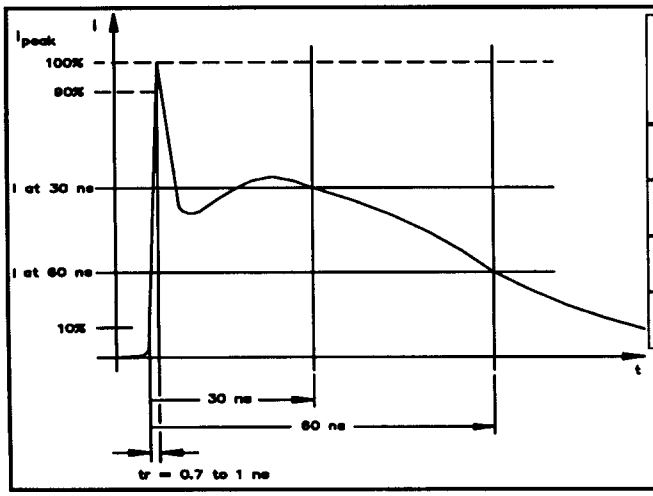


PULSE DERATING CURVE



8x20µs IMPULSE WAVEFORM





LEVEL	First Peak Current of Discharge (±10%) (A)	Peak Current (±30%) at 30ns (A)	Peak Current (±30%) at 60ns (A)	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

IEC 1000-4-2 ESD WAVEFORM & DISCHARGE PARAMETERS