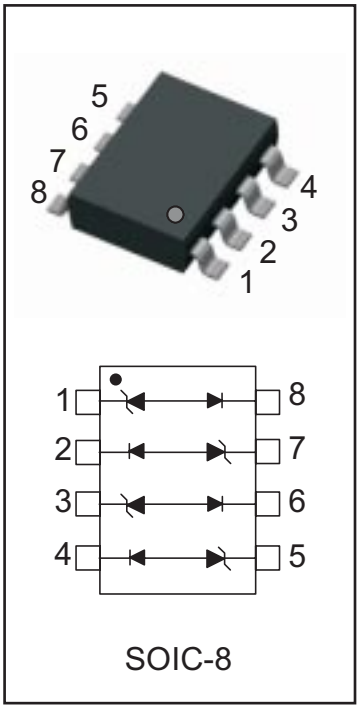
QUAD LOW CAPACITANCE TVS ARRAY FOR HIGH SPEED DATA LINES

This Quad TVS Array offers an excellent ESD/Transient Protection for High Speed Transmission Data buses in very sensitive electronics. The array comes in an industry std SOIC-8 package, with 4 individual Low Capacitance TVS/Zeners which could offer 4 Uni-directional or 2 Bi-directional Data Line Protection.



SPECIFICATION FEATURES

- 400W Power Dissipation (8x20µsec Waveform)
- Very Low Leakage Current, Maximum of 5µA @ 5Vdc
- Maximum Capacitance @ 1MHz Zero dc Bias, of 1.2pF
- Unidirectional, 2.4pF Bi-directional
- IEC61000-4-2 ESD 15kV air, 8kV Contact Compliance
- IEC61000-4-5 (Lightning) 17 Amps peak, 8x20µsec

APPLICATIONS

- Personal Digital Assistant (PDA)
- Universal Serial Bus (1.1 and 2.0) and Fire Wire Port
- Portable Instrumentation
- Portable Consumer Electronics
- Ethernet 10, 100, and 1000 Base Port Protection

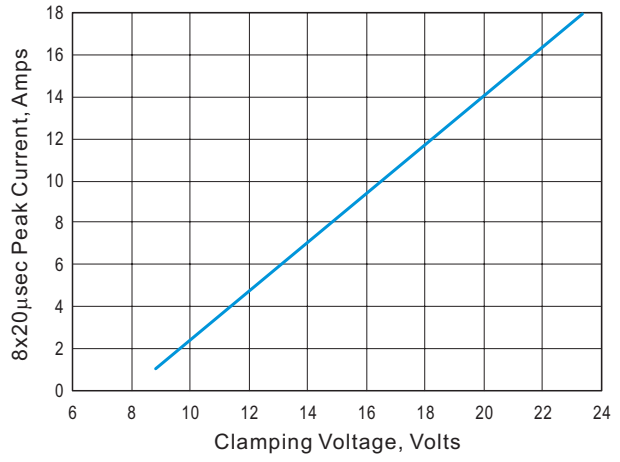
MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power (8x20µsec Waveform)	P_{PK}	400	W
Peak Pulse Current (8x20µsec Waveform)	I_{PP}	17	A
ESD Voltage (HBM)	V_{ESD}	>25	kV
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

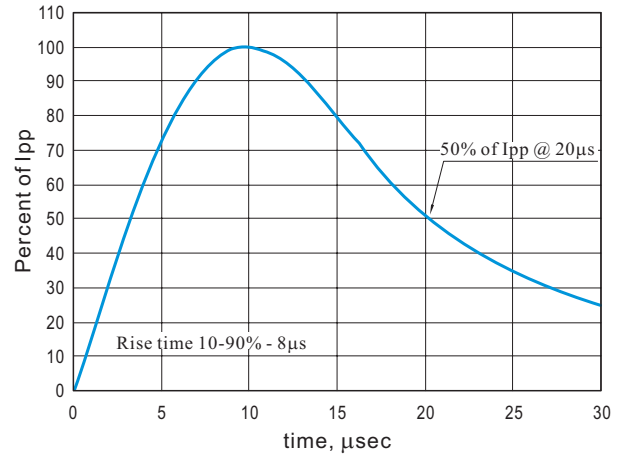
ELECTRICAL CHARACTERISTICS (PER DEVICE)

Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1mA	6			V
Reverse Leakage Current	I_R	V_R = 5V			5	µA
Clamping Voltage (8x20µsec)	V_C	I_{PP} = 1A			10	V
Clamping Voltage (8x20µsec)	V_C	I_{PP} = 5A			13	V
Off-State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz Per Device			1.2	pF
Maximum Peak Pulse Current	I_{PP}	8x20µsec Waveform			17	A

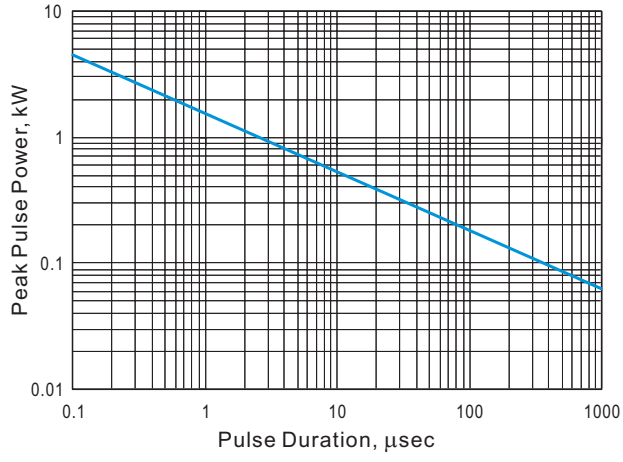
RATING AND CHARACTERISTIC CURVES



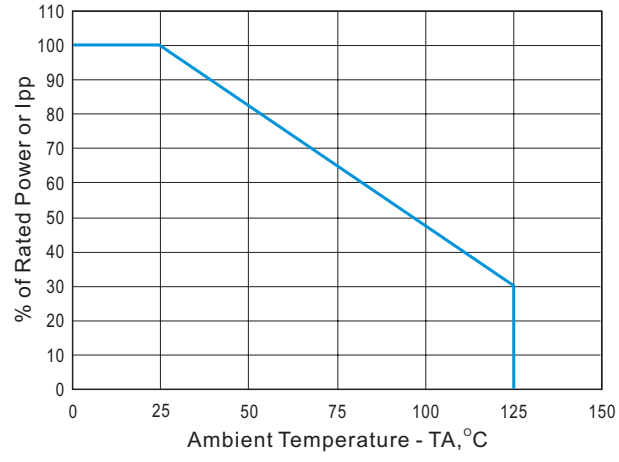
Clamping Voltage vs Ipp 8x20µsec



Pulse Waveform



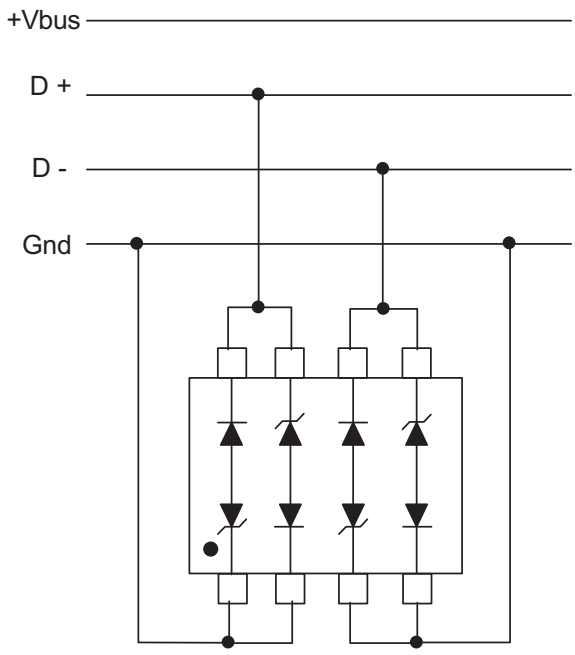
Non-Repetitive Peak Pulse Power vs Pulse Time



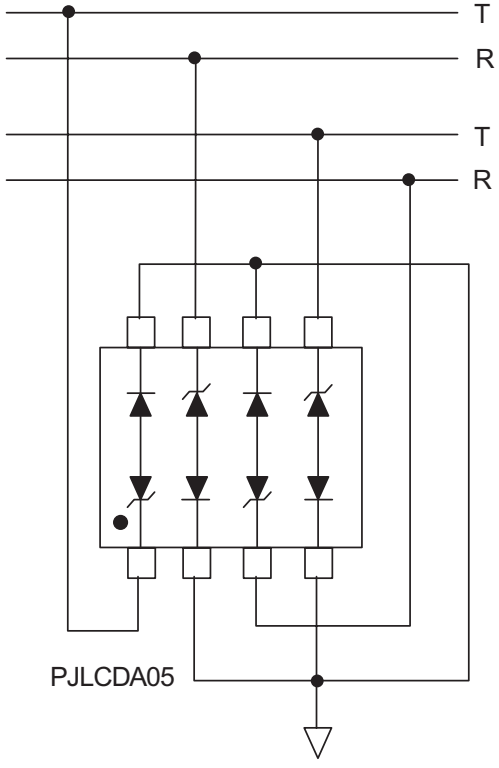
Power Derating Curve

TYPICAL APPLICATION CONFIGURATION

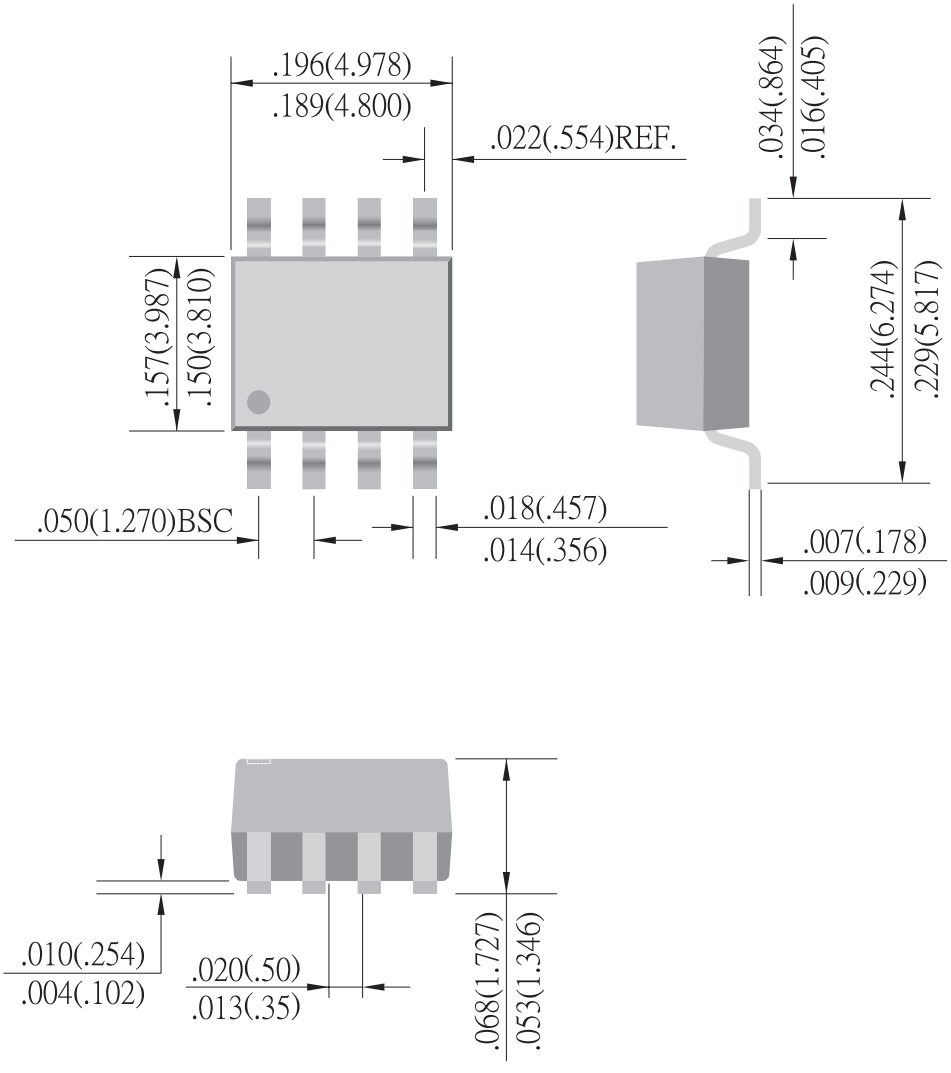
USB Application



Ethernet Application



OUTLINE DRAWING

SOIC-8

Unit: inch (mm)