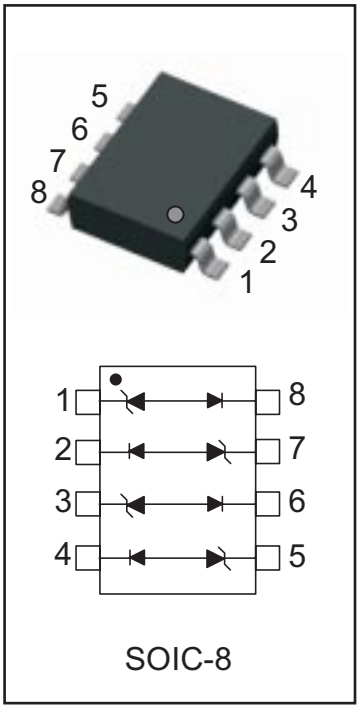
# QUAD LOW CAPACITANCE TVS ARRAY FOR HIGH SPEED DATA LINES

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

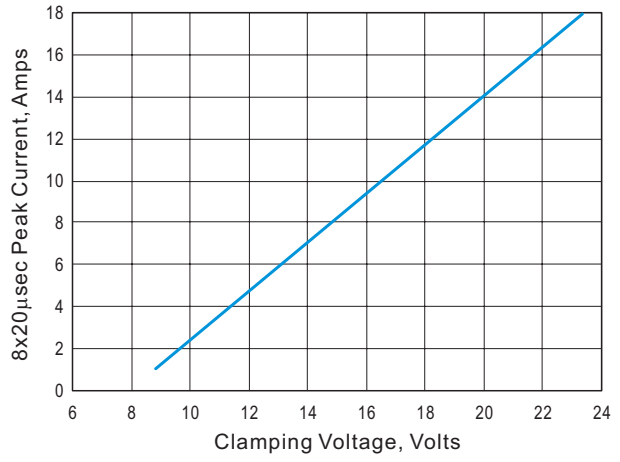
## MAXIMUM RATINGS

| 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 |

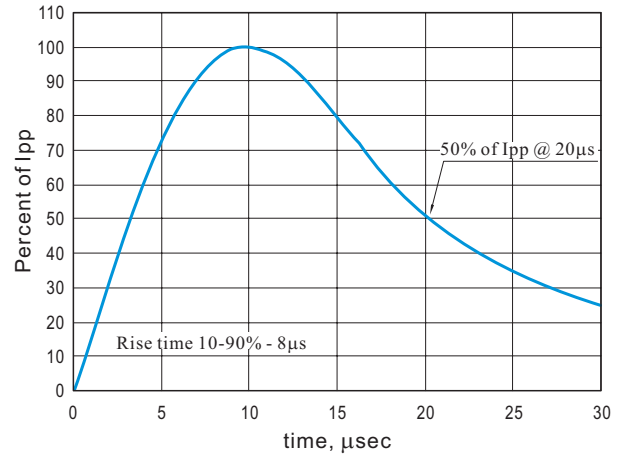
## ELECTRICAL CHARACTERISTICS (PER DEVICE)

| 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 |

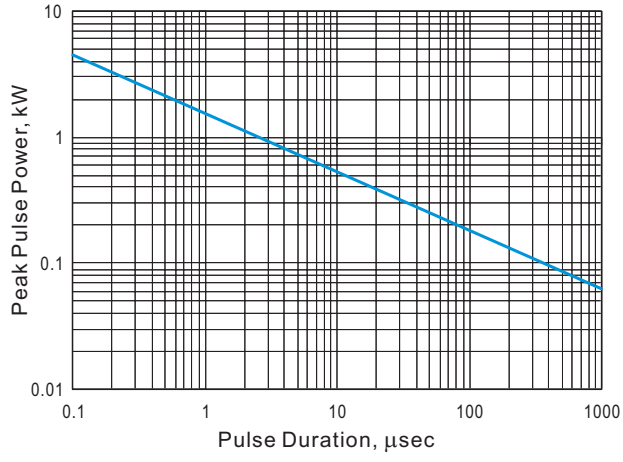
## RATING AND CHARACTERISTIC CURVES



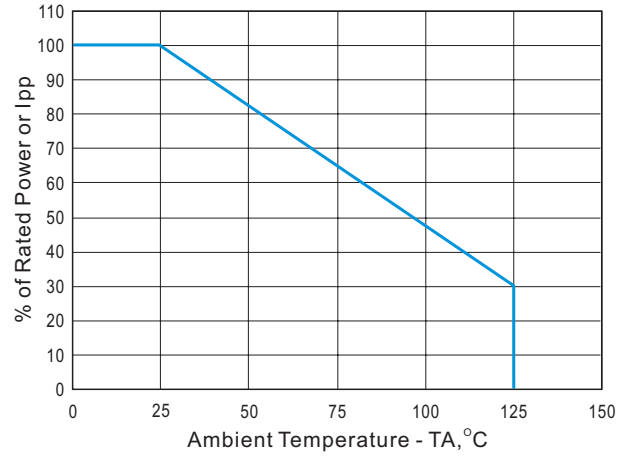

**Clamping Voltage vs Ipp 8x20µsec**




**Pulse Waveform**



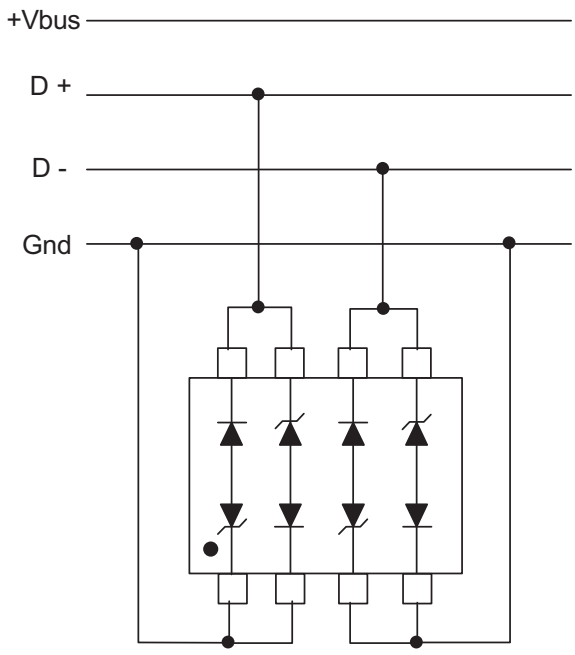

**Non-Repetitive Peak Pulse Power vs Pulse Time**



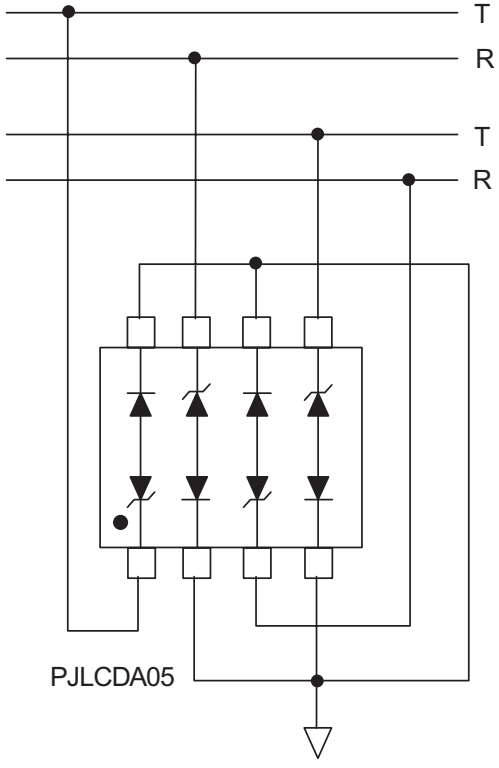

**Power Derating Curve**

## TYPICAL APPLICATION CONFIGURATION

USB Application




Ethernet Application



## OUTLINE DRAWING

### SOIC-8

Unit: inch ( mm )