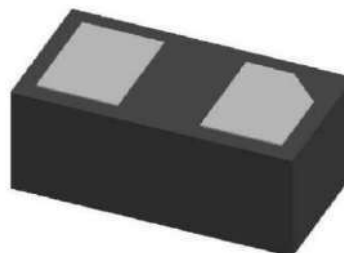


1-Line Bi-directional TVS Diode

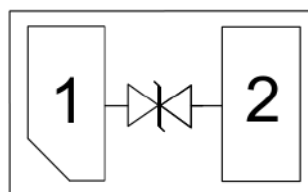
Features

- Ultra low capacitance: 0.26pF
- typical Ultra low leakage: nA level
- Low operating voltage: 3.3V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 20\text{kV}$
 - Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-5 (Lightning) 6A (8/20 μs)
- RoHS Compliant
- Lead Finish: NiPdAu

Dimensions DFN0603



Pin Configuration



Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100 Base T

Mechanical Characteristics

- Package: DFN0603
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000pcs
- Reel Size: 7 inch
- Device Marking: C9

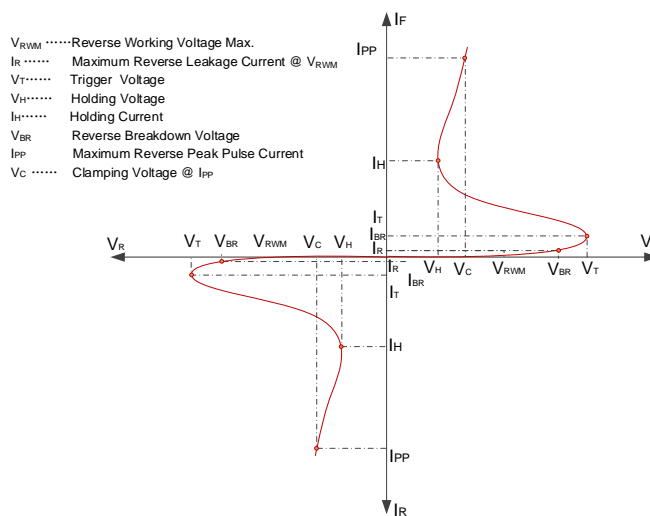
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 μs) | Ppp | 40 | W |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ± 20 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ± 15 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STJ} | -55 to +125 | °C |

Electrical Characteristics (TA=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-------------------------|------------------|--|-----|------|------|------|
| Reverse Working Voltage | V _{RWM} | | | | 3.3 | V |
| Breakdown Voltage | V _{BR} | I _T = 1mA | 4 | 7.8 | | V |
| Reverse Leakage Current | I _R | V _{RWM} = 3.3V | | | 0.05 | μA |
| Clamping Voltage | V _C | I _{PP} = 6A (8 x 20 μs pulse) | | 5.5 | 6.5 | V |
| ESD Clamping Voltage | V _C | I _{TLP} =4A, tp=0.2/100ns | | 5.8 | | V |
| ESD Clamping Voltage | V _C | I _{TLP} =16A, tp=0.2/100ns | | 9.4 | 11.8 | V |
| Junction Capacitance | C _J | V _R = 0V, f = 1MHz | | 0.26 | 0.32 | pF |

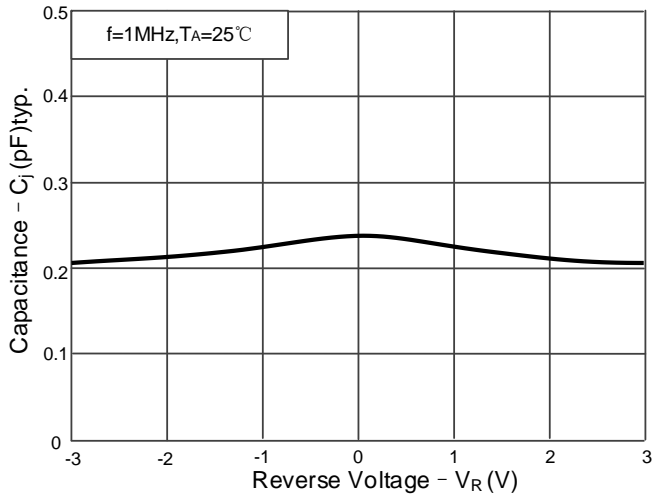
Electrical Parameters (TA=25°C unless otherwise specified)



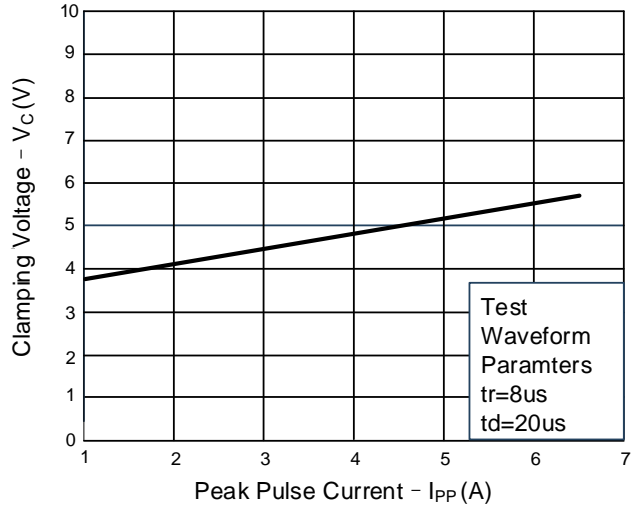
Note1: 8/20μs pulse waveform.

Typical Performance Characteristics(TA=25°C unless otherwise specified)

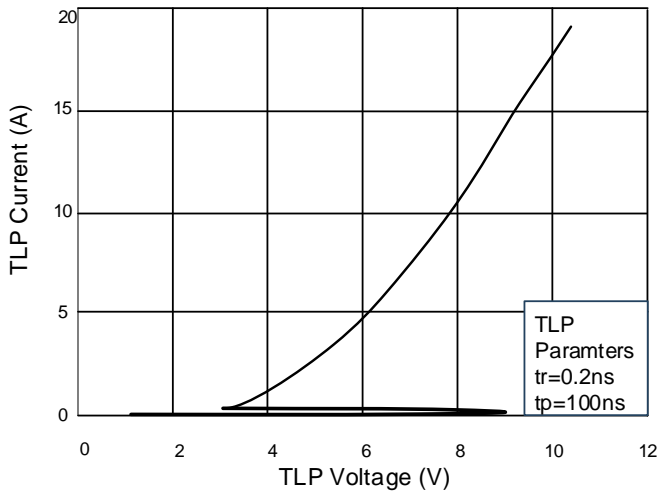
Capacitance vs. Reverse Voltage



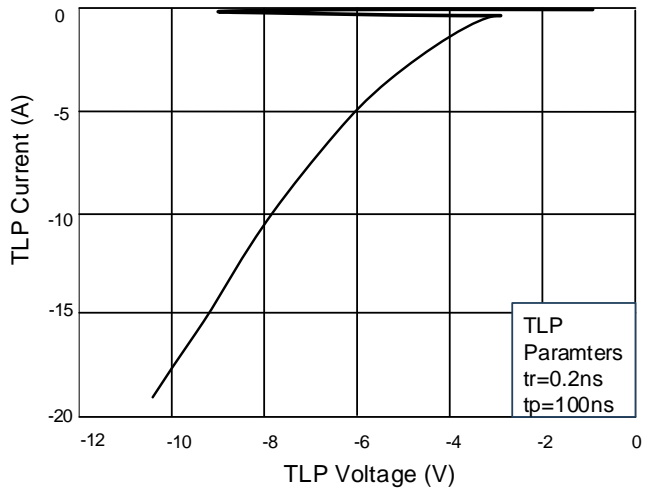
Reverse Clamping Voltage vs. Peak Pulse Current



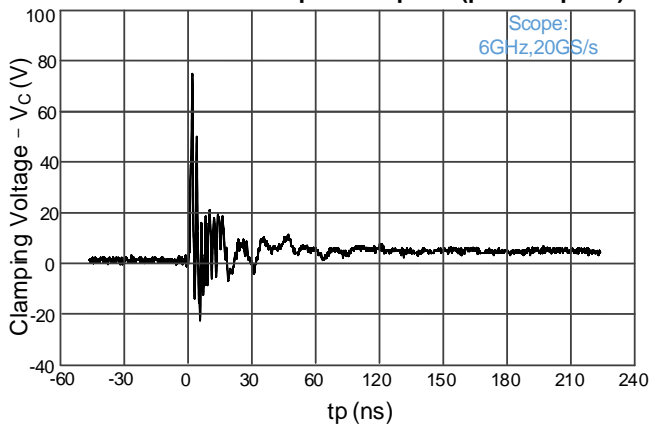
TLP Positive I-V Curve



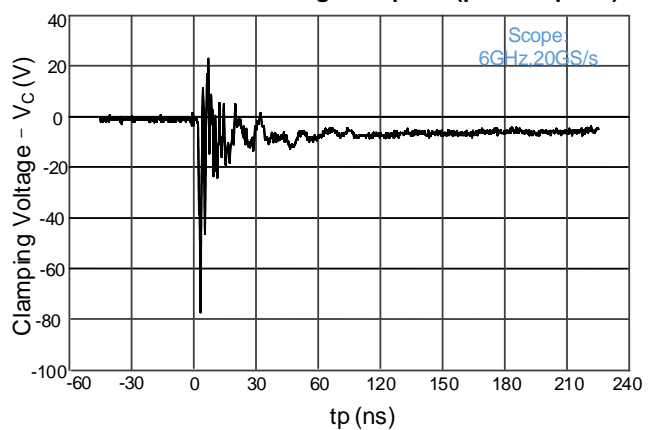
TLP Negative I-V Curve



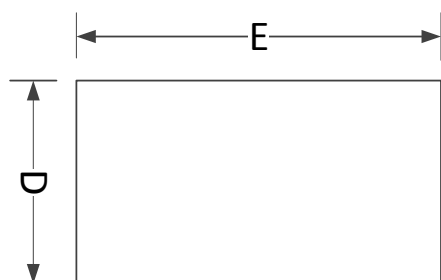
IEC61000-4-2 : 8 kV positive pulse(pin 1 to pin 2)



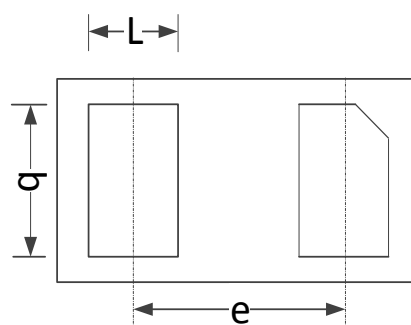
IEC61000-4-2 : 8 Kv negative pulse(pin 2 to pin 1)



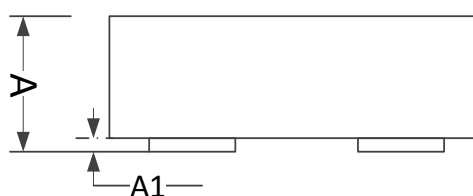
DFN0603Package Outline Drawing



TOP VIEW



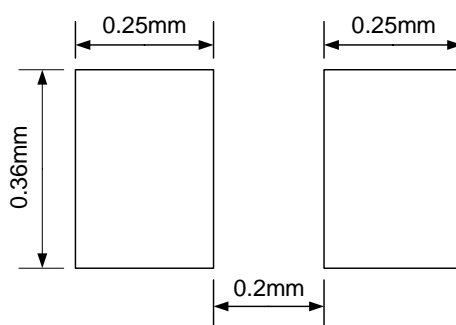
BOTTOM VIEW



SIDE VIEW

| COMMON DIMENSION (MM) | | | |
|-----------------------|---------|------|-------|
| PKG | DFN0603 | | |
| REF. | MIN. | NOM. | MAX. |
| A | 0.28 | 0.30 | 0.34 |
| A1 | 0.00 | 0.02 | 0.05 |
| b | 0.21 | 0.23 | 0.265 |
| L | 0.14 | | 0.24 |
| e | 0.40BSC | | |
| D | 0.25 | 0.30 | 0.35 |
| E | 0.55 | 0.60 | 0.65 |

Suggested Land Pattern



Notes: This PCB Layout Is For Reference Purposes Only.