

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

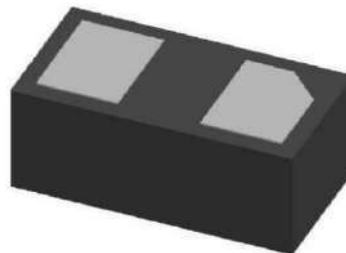
Applications

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

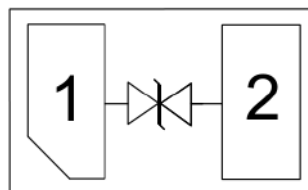
Mechanical Characteristics

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

Dimensions DFN0603



Pin Configuration



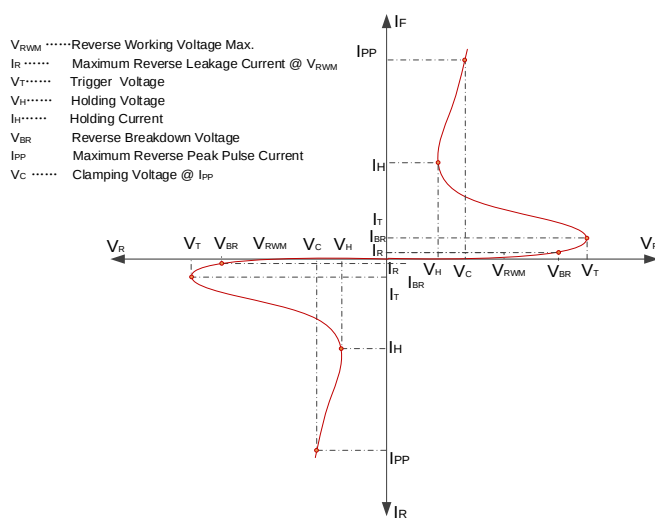
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	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}	$I_T = 1\text{mA}$	4	7.8		V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			0.05	μA
Clamping Voltage	V_C	$I_{PP} = 6\text{A}$ (8 x 20 μs pulse)		5.5	6.5	V
ESD Clamping Voltage	V_C	$I_{TLP}=4\text{A}, t_p=0.2/100\text{ns}$		5.8		V
ESD Clamping Voltage	V_C	$I_{TLP}=16\text{A}, t_p=0.2/100\text{ns}$		9.4	11.8	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		0.26	0.32	pF

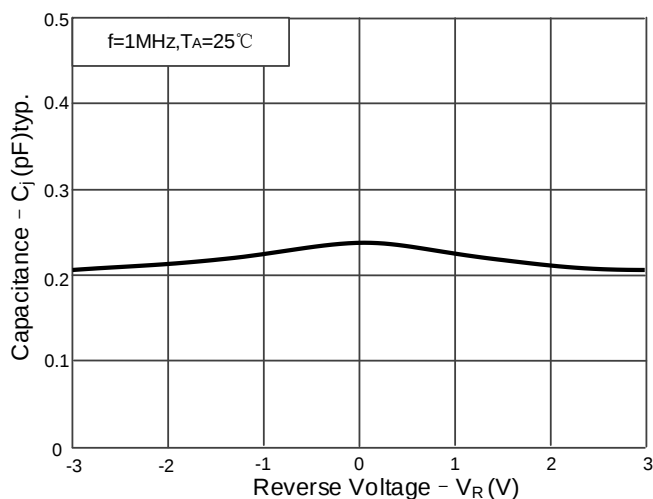
Electrical Parameters(TA=25°C unless otherwise specified)



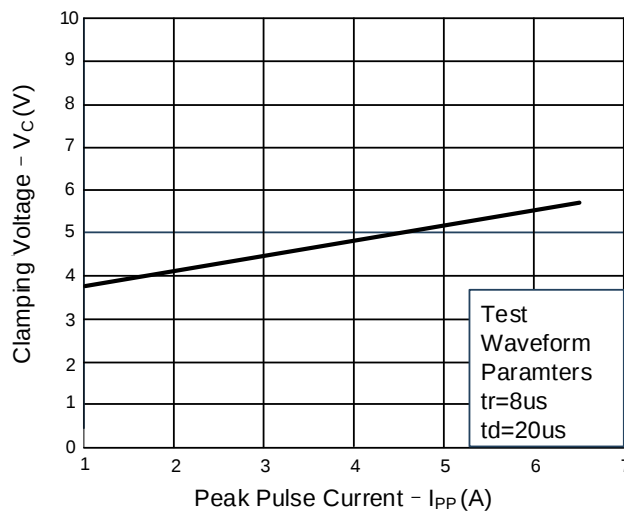
Note1: 8/20 μs pulse waveform.

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

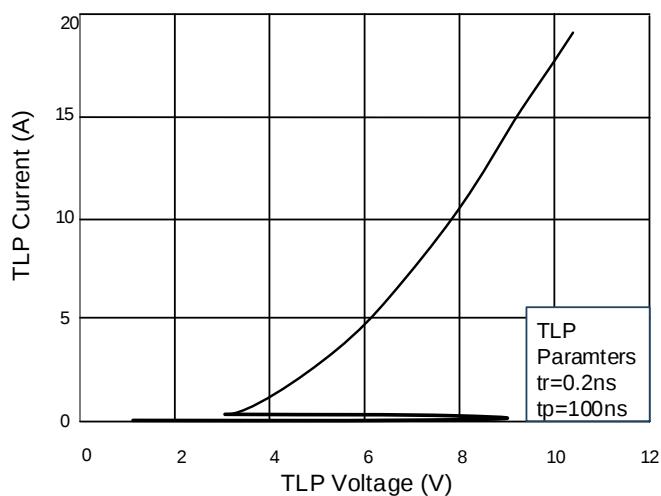
Capacitance vs. Reverse Voltage



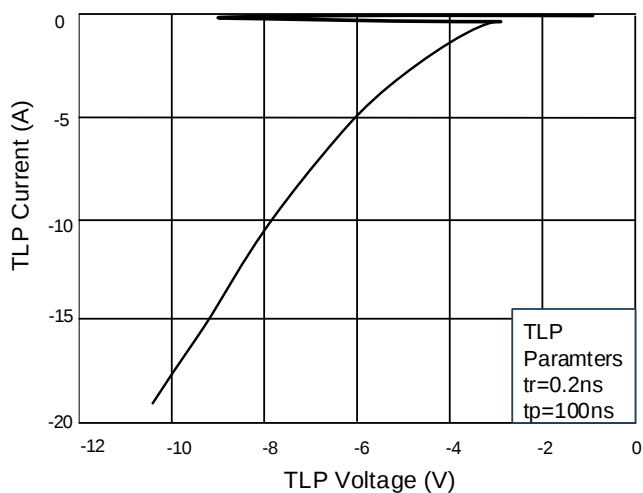
Reverse Clamping Voltage vs. Peak Pulse Current



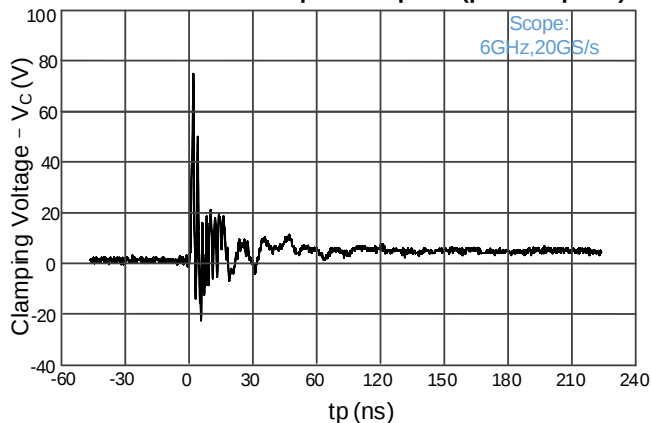
TLP Positive I-V Curve



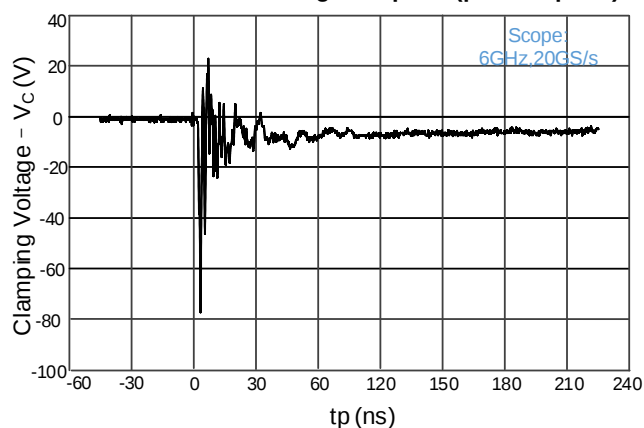
TLP Negative I-V Curve



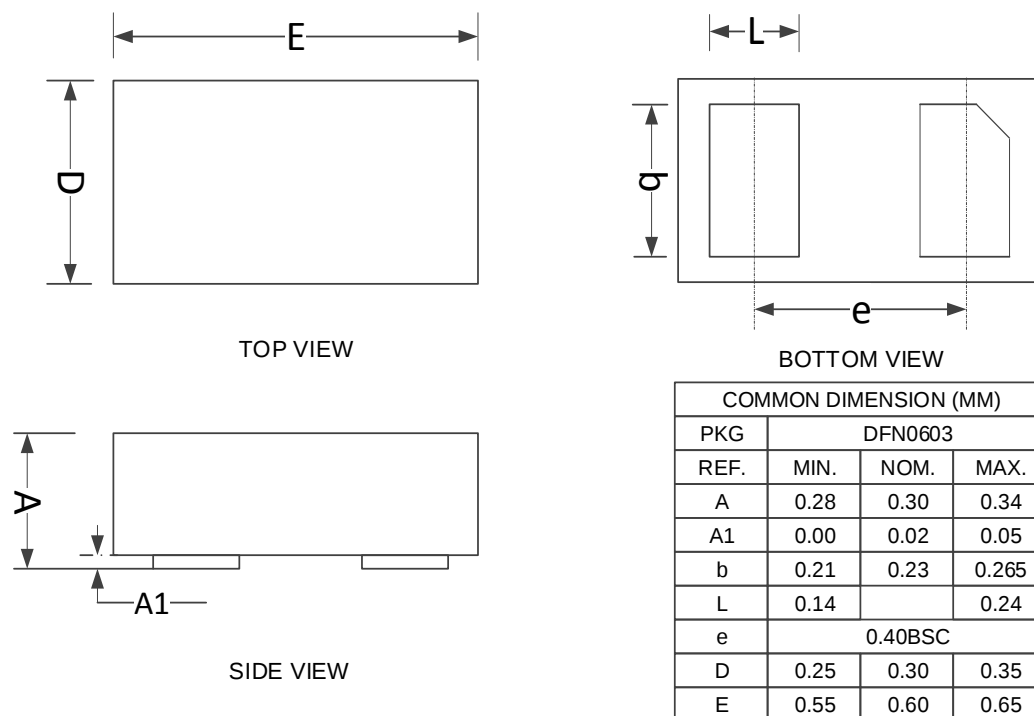
IEC61000-4-2 : 8 kV positive pulse(pin 1 to pin 2)



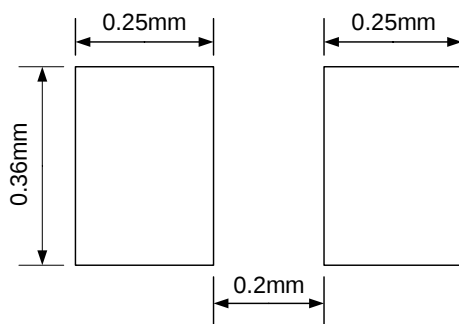
IEC61000-4-2 : 8 Kv negative pulse(pin 2 to pin 1)



DFN0603Package Outline Drawing



Suggested Land Pattern



Notes: This PCB Layout Is For Reference Purposes Only.