

1-Line Bi-directional TVS Diode

Features

- Operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 3.5A (8/20 μs)
- RoHS Compliant

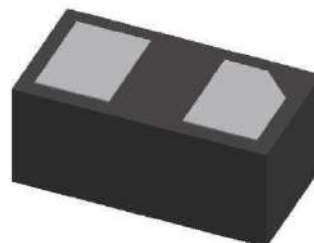
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

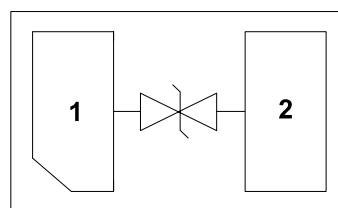
Mechanical Characteristics

- Package: DFN1006
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000 pcs
- Reel Size: 7 inch
- Device Marking: VB

Dimensions DFN1006



Pin Configuration



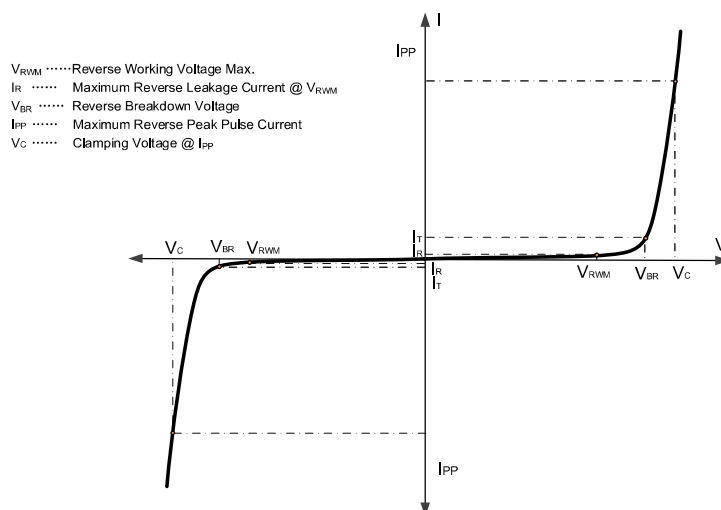
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	40	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
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}		-5		5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	5.5	6.5		V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 3.5\text{A}$ (8 x 20 μs pulse)			11	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		3.5	4	pF

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



Note1: 8/20 μs pulse waveform.

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

Figure 1: Peak Pulse Power vs. Pulse Time

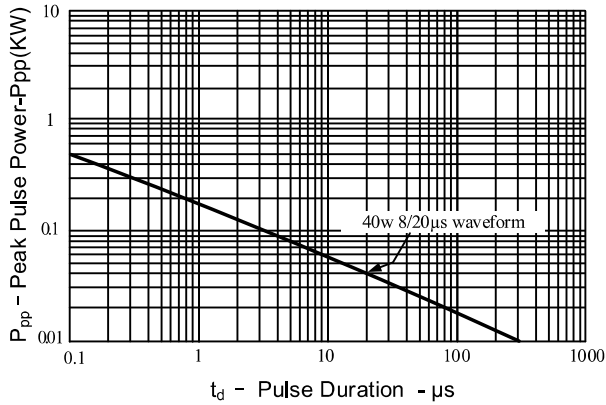


Figure 2: Power Derating Curve

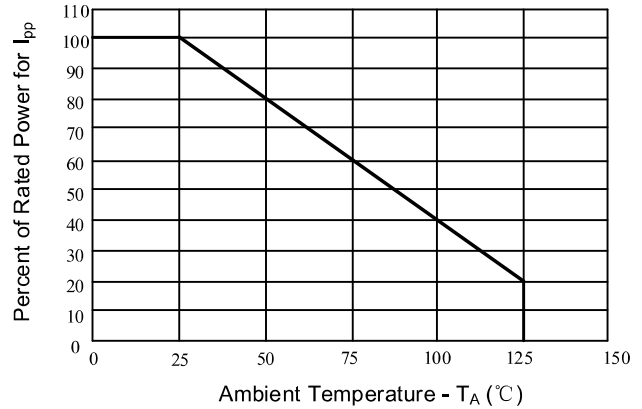


Figure3: 8/20μs Pulse Waveform

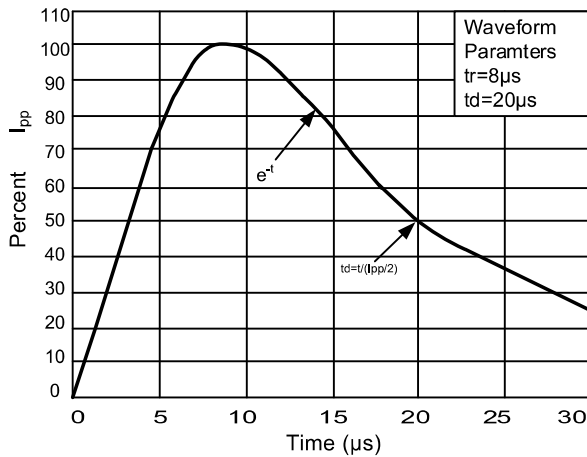


Figure 4: Clamping Voltage vs. Ipp

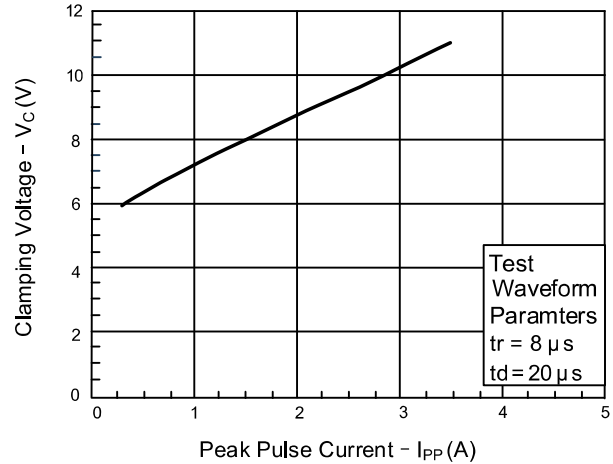


Figure5: IEC61000-4-2 +8 kV Contact ESD Clamping Voltage

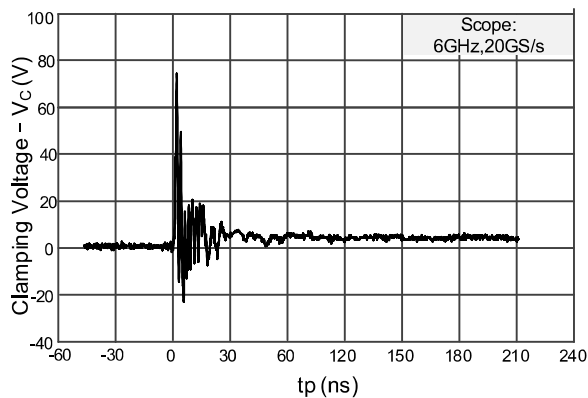
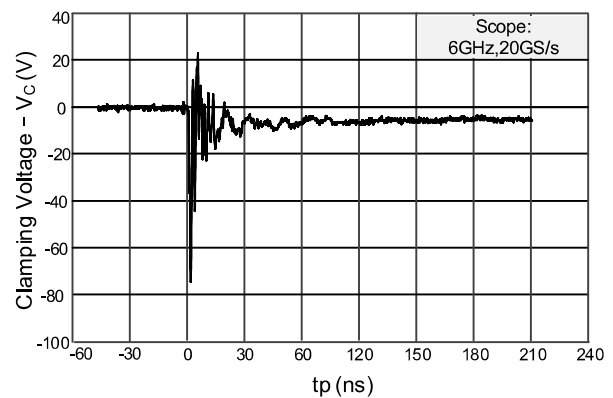
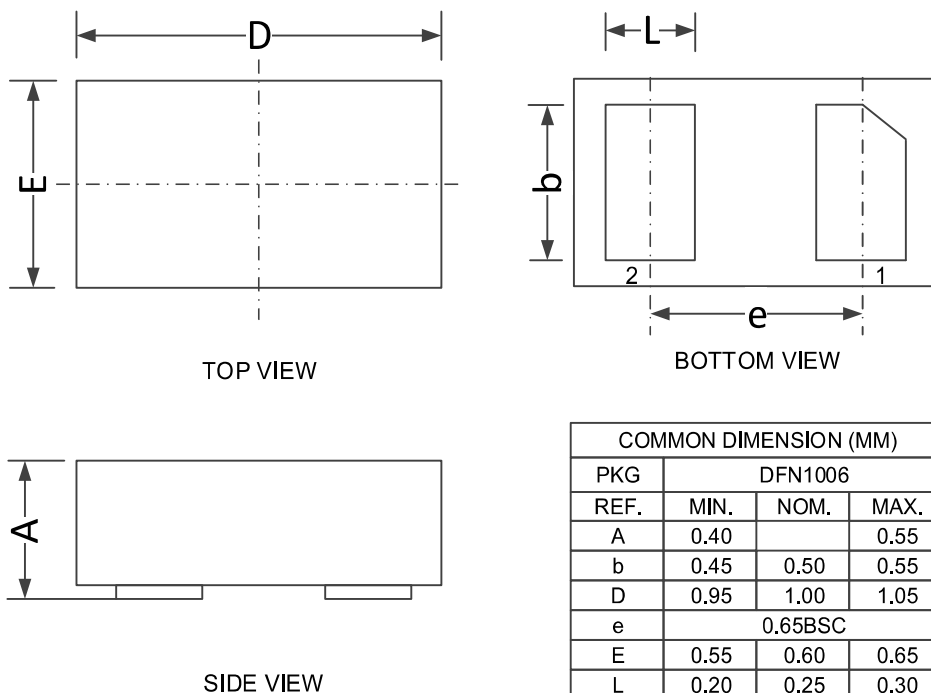


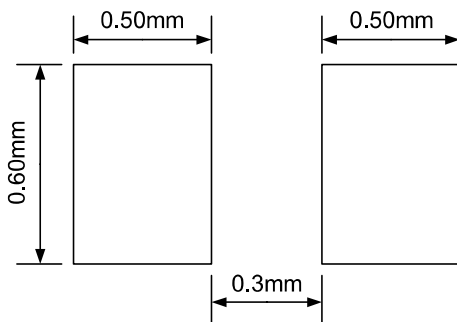
Figure6: IEC61000-4-2 -8 kV Contact ESD Clamping Voltage



DFN1006 Package Outline Drawing



Suggested Land Pattern



Notes: This PCB Layout Is For Reference Purposes Only