

1-Line Bi-directional TVS Diode

Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low capacitance: 15pF typical
- Ultra low leakage: nA level
- Low 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) 8A (8/20 μs)
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

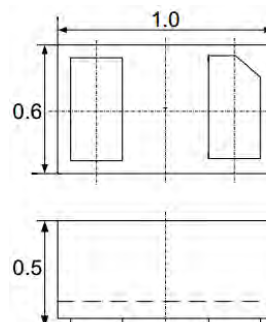
Mechanical Characteristics

- Package: DFN1006
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000pcs
- Reel Size: 7 inch
- Device Marking: B2

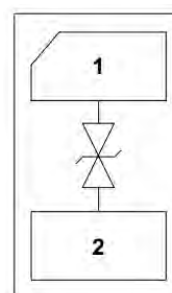
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	100	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 +150	°C

Dimensions DFN1006



Pin Configuration



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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	5.6	7	8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse)		7.2	12	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		15	18	pF

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

FIG.1: V- I curve characteristics (Bi-directional)

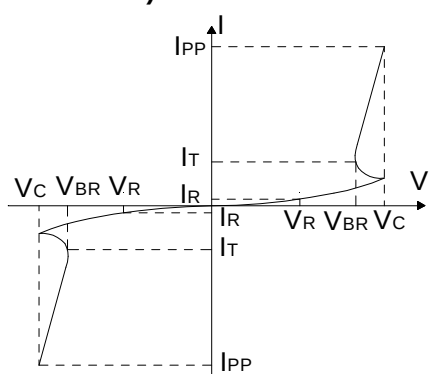


FIG.2: Pulse waveform (8/20 μs)

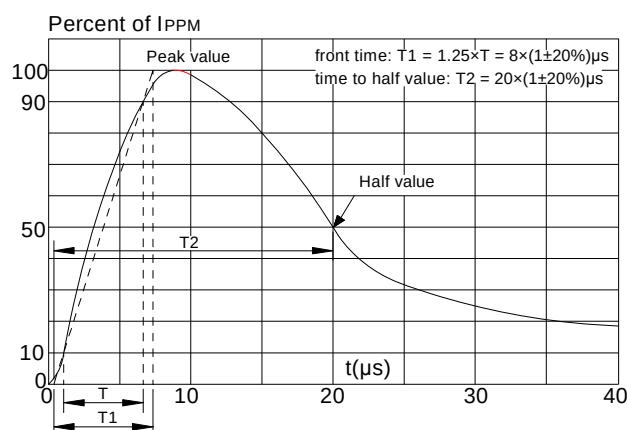


FIG.3: Pulse derating curve

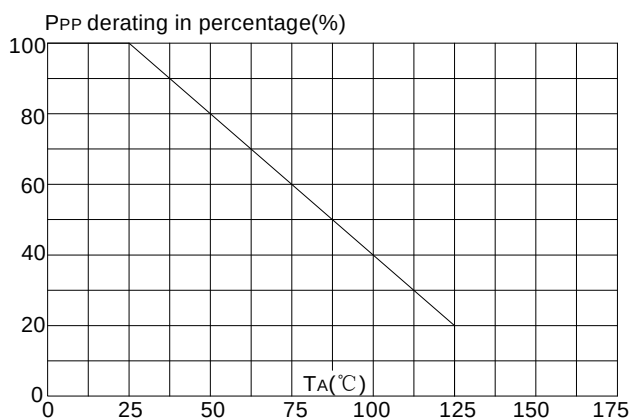
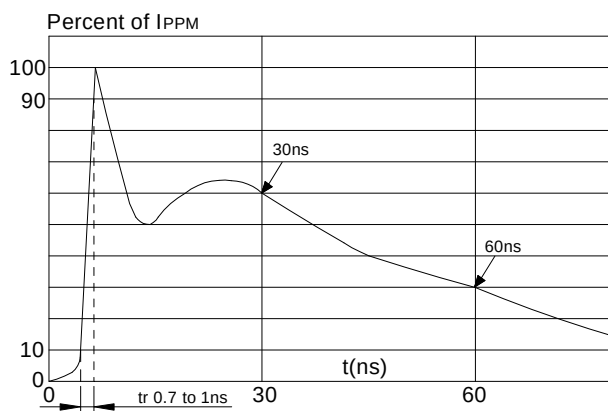
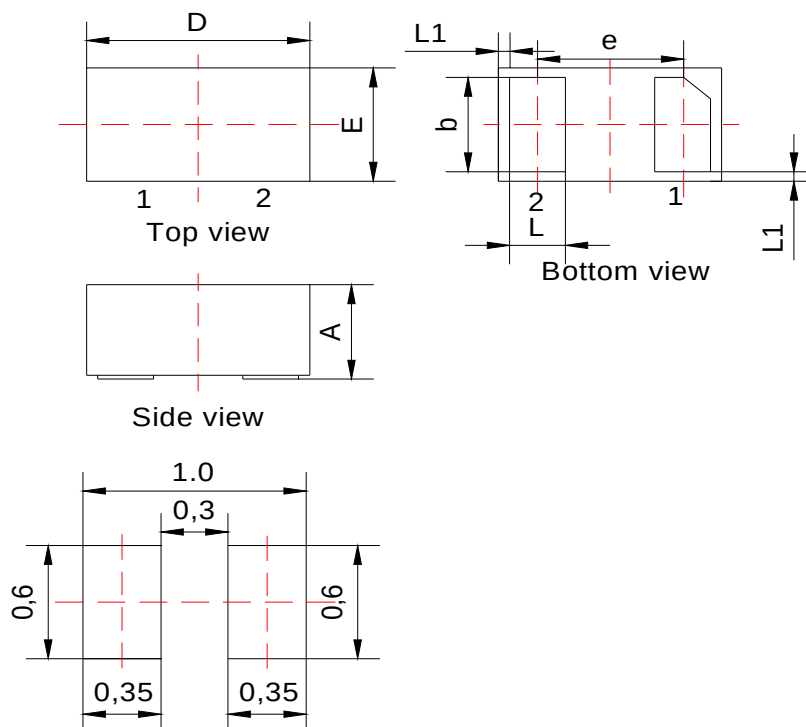


FIG.4: ESD clamping (20kV contact)



DFN1006 Package Outline Drawing



Recommended soldering footprint(mm)

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.32	0.42	0.013	0.017
b	0.45	0.55	0.018	0.022
D	0.95	1.05	0.037	0.041
e	0.55	0.65	0.022	0.026
E	0.55	0.65	0.022	0.026
L	0.28	0.38	0.011	0.015
L1	0.00	0.10	0.000	0.004