1-Line Low Capacitance Bi-directional TVS Diode

Features

- Operating voltage: 3.3V
  Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
- – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 14A (8/20 μs)
- RoHS Compliant

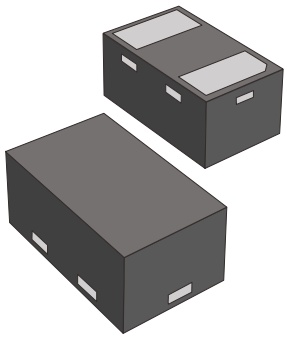
Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100/1000 Base T

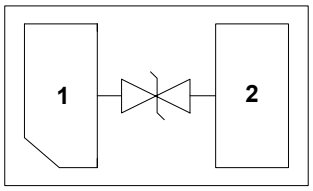
Mechanical Characteristics

- Package: DFN1006
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:10,000pcs
- Reel Size:7 inch
- Device Marking: 3BH

Dimensions DFN1006



Pin Configuration



Caution:
This Device is designed for signal line protection only.
Not intended to be used under bias, not for application with a power line.

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

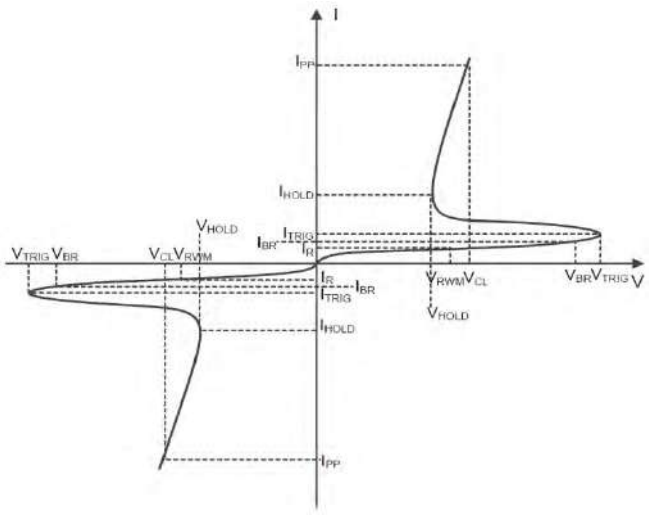
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	110	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000−4−2 (Contact)		± 30	
Operating Temperature Range	T_J	-50 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

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

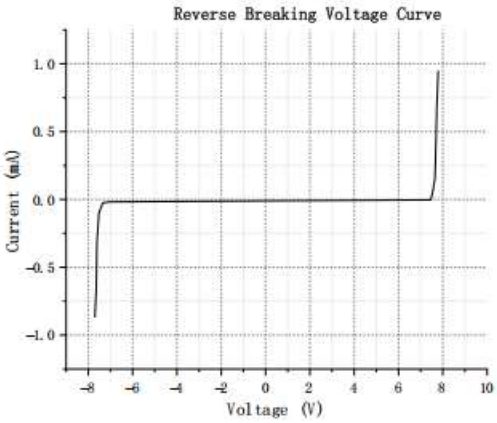
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6.0	7.8		V
Reverse Leakage Current	I_R	V_{RWM} = 3.3V		0.01	0.1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20 μs pulse)		2.5		V
Clamping Voltage	V_C	I_{PP} = 14A (8 x 20 μs pulse)		6.6	7.5	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.45	0.55	pF

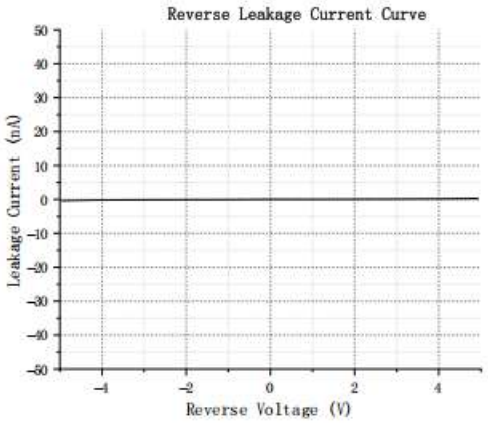
Electrical Parameters (TA=25°C unless otherwise specified)

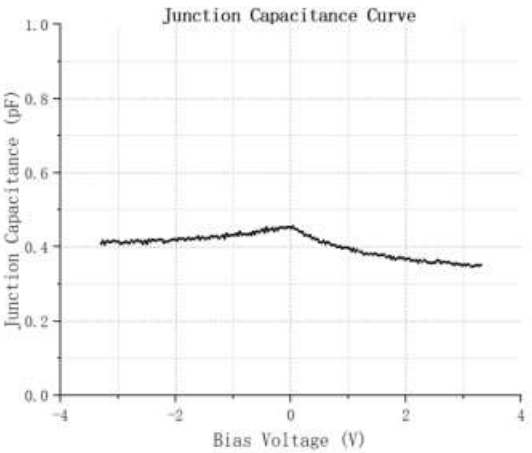
Symbol	Parameters
V_{RWM}	Reverse stand-off voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
I_{BR}	Reverse breakdown current
V_{CL}	Clamping voltage
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{HOLD}	Reverse holding voltage
I_{HOLD}	Reverse holding current
I_{PP}	Peak pulse current

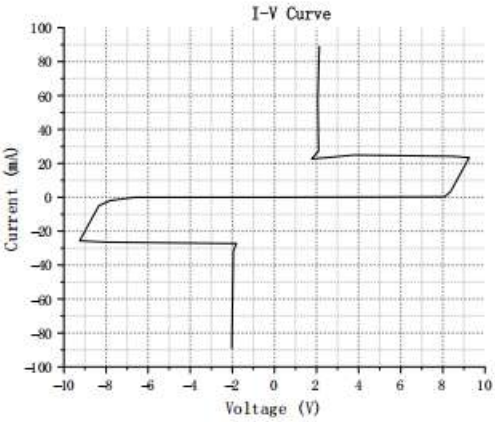


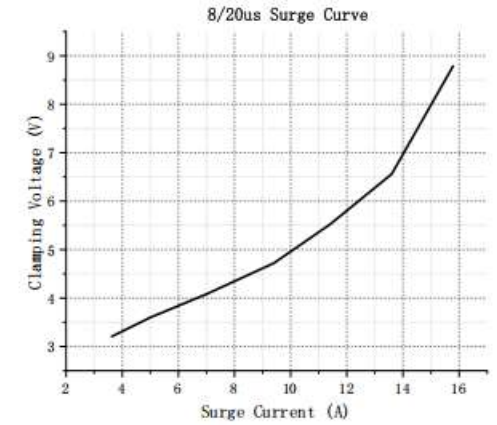
Typical Performance Characteristics(TA=25°C unless otherwise specified)



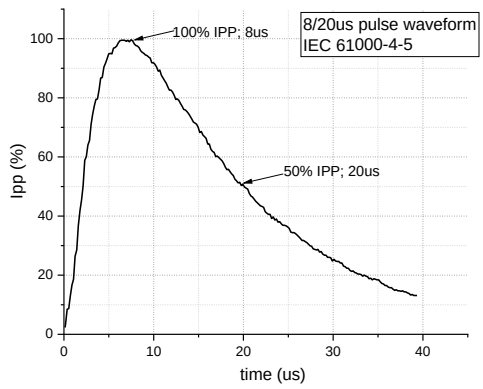


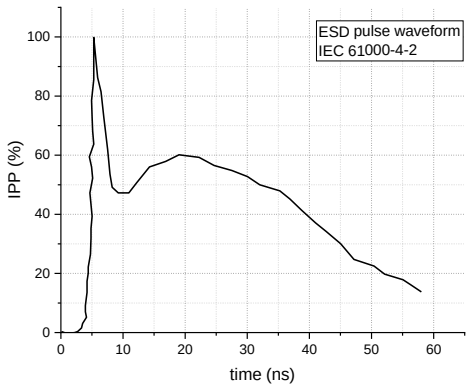




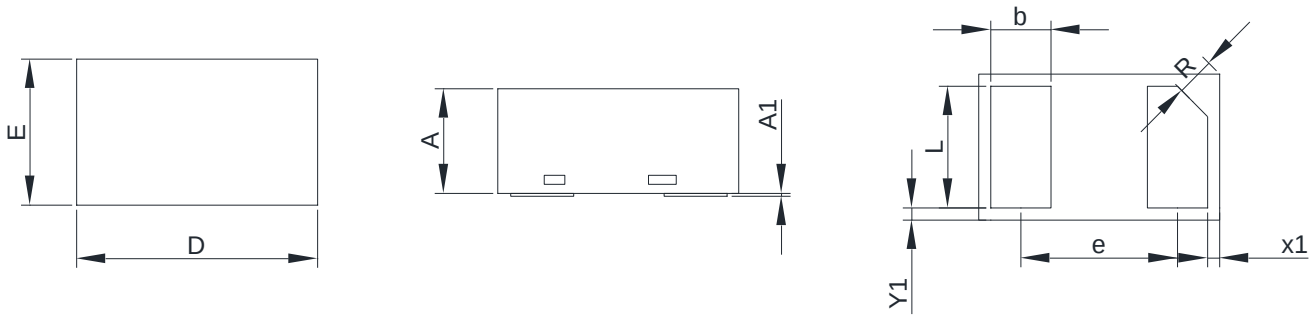


Measurement Wave According to IEC Standard





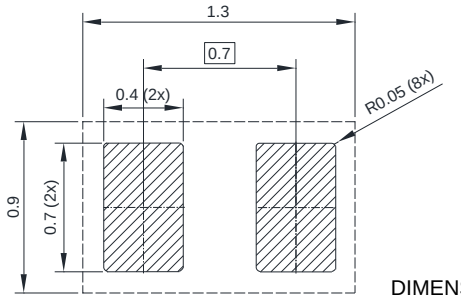
DFN1006 Package Outline Drawing



Units in millimeters

Symbol	Min.	Nom.	Max.	Symbol	Min.	Nom.	Max.
A	0.45	0.50	0.55	R	0.07	0.10	0.13
D	0.95	1.00	1.05	X1	0.025		0.065
E	0.55	0.60	0.65	Y1	0.025		0.065
b	0.20	0.25	0.30	A1	0		0.015
L	0.45	0.50	0.55				
e	0.65						

Suggested Land Pattern



DIMENSIONS: MILLIMETERS