

1-CHANNEL ULTRA LOW CAPACITANCE ESD DIODE

Features:

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant
- AEC-Q101 qualified

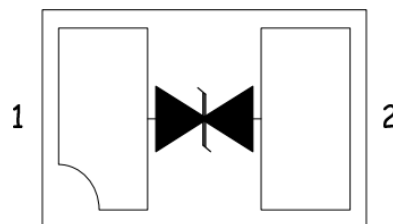
Applications:

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Dimensions DFN1006



Pin Configuration



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: 3B

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	56	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	Kv
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°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}	$I_T = 1mA$	4.2			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ (8 x 20 μs pulse)			10	V
Clamping Voltage	V_C	$I_{PP} = 4A$ (8 x 20 μs pulse)			14	V
Junction Capacitance	C_J	$V_R = 0V$, $f = 1MHz$		0.45	0.6	pF

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

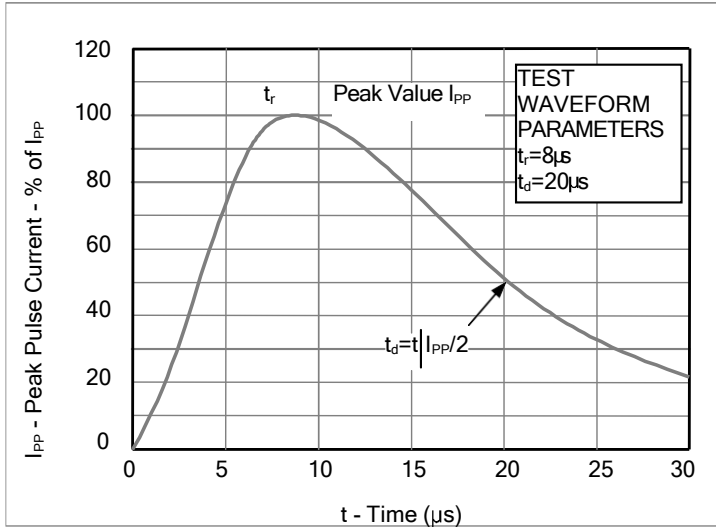


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

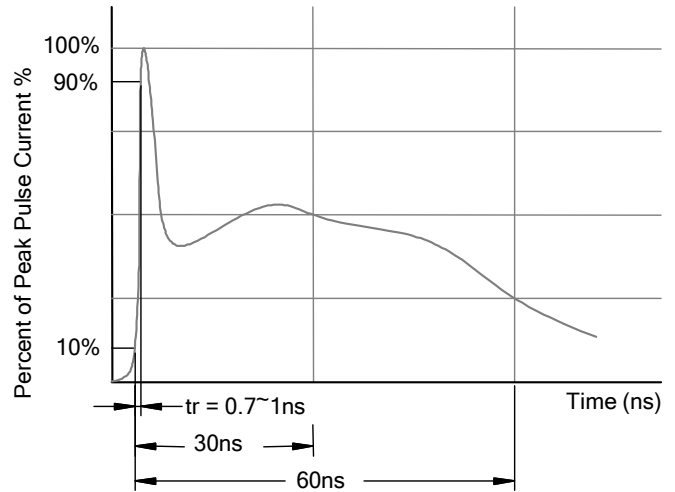
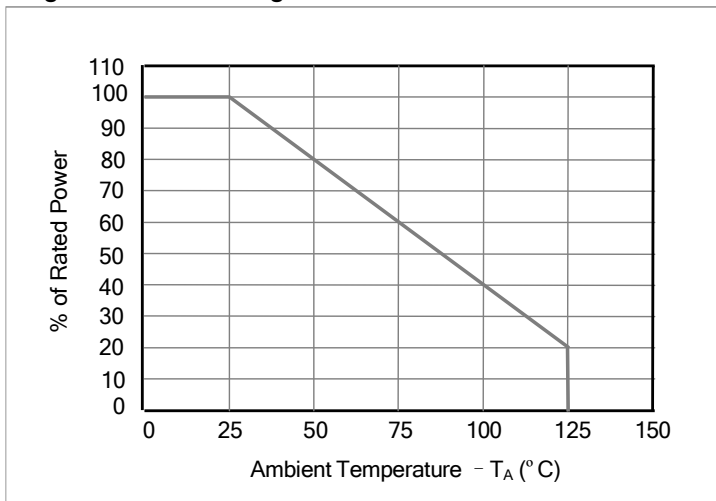
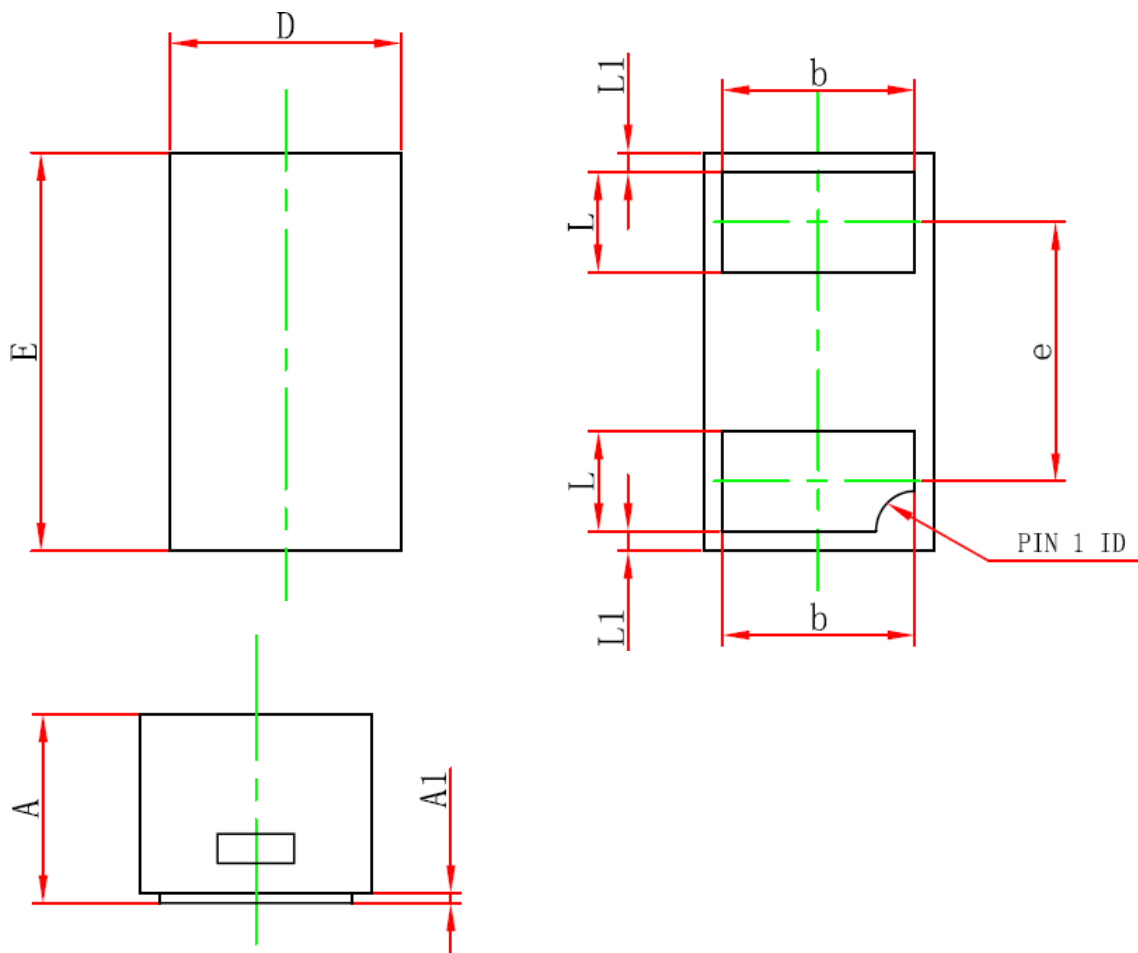


Fig3. Power Derating Curve



DFN1006 PACKAGE OUTLINE & DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.400	0.500	0.016	0.020
A1	0.000	0.050	0.000	0.002
D	0.550	0.650	0.022	0.026
E	0.950	1.050	0.037	0.041
b	0.400	0.600	0.016	0.024
e	0.650TYP.		0.026TYP.	
L	0.150	0.350	0.006	0.014
L1	0.050REF.		0.002REF.	