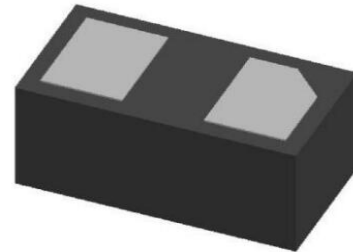


Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 25\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 9A (8/20 μs)
- RoHS Compliant

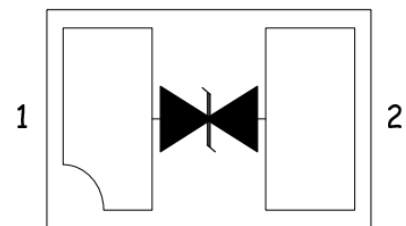
Dimensions DFN1006



Applications

- USB 3.0 and USB3.1
- Ultra-high-speed data lines
- Very sensitive interface lines
- Notebooks, Desktops, and Servers
- Portable Instrumentation

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: T5

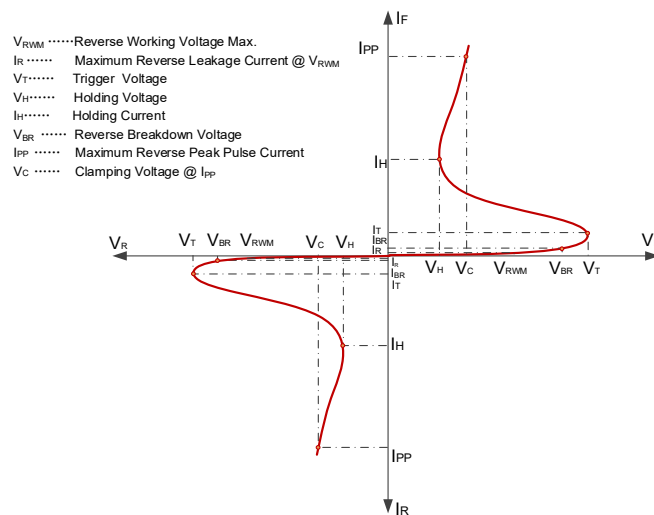
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	80	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 25	
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	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6	7		V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.05	μA
Clamping Voltage	V_C	$I_{PP} = 9\text{A}$ (8 x 20 μs pulse)		7	8	V
ESD Clamping Voltage	V_{CL}	$I_{TLP}=4\text{A}, t_p=0.2/100\text{ns}$		3.7		V
ESD Clamping Voltage	V_{CL}	$I_{TLP}=16\text{A}, t_p=0.2/100\text{ns}$		8		V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		0.3	0.4	pF

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



Note1: 8/20 μs pulse waveform.

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

Fig1: Capacitance vs. Reverse Voltage

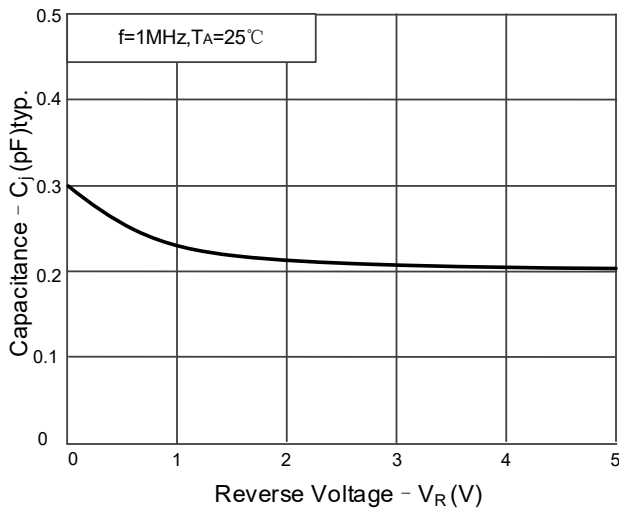


Fig2: Power Derating Curve

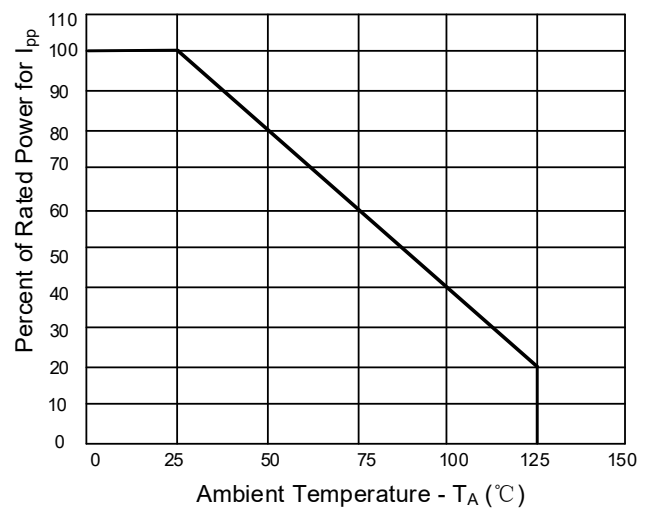


Fig3: TLP I-V Curve

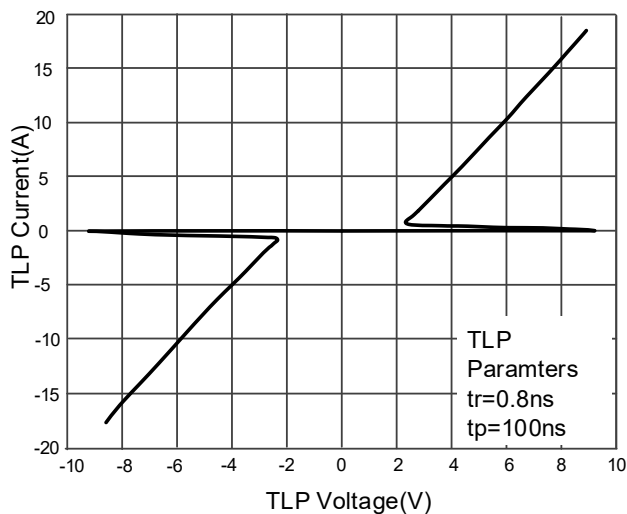


Fig4: Reverse Clamping Voltage vs. Peak Pulse Current

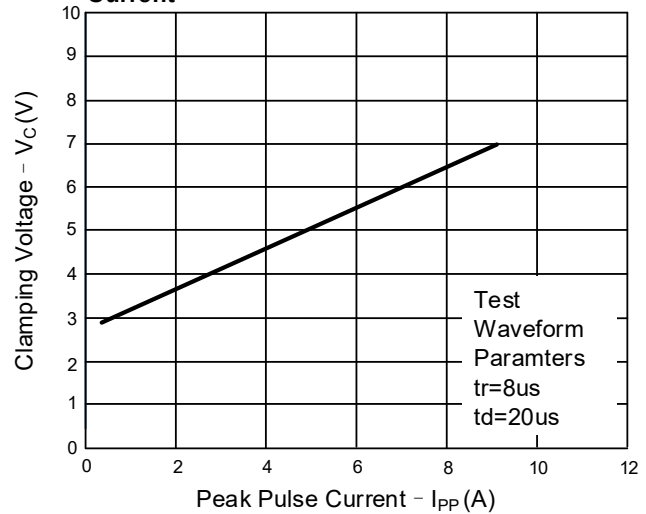


Figure5: IEC61000-4-2 +8 kV Contact ESD Clamping Voltage

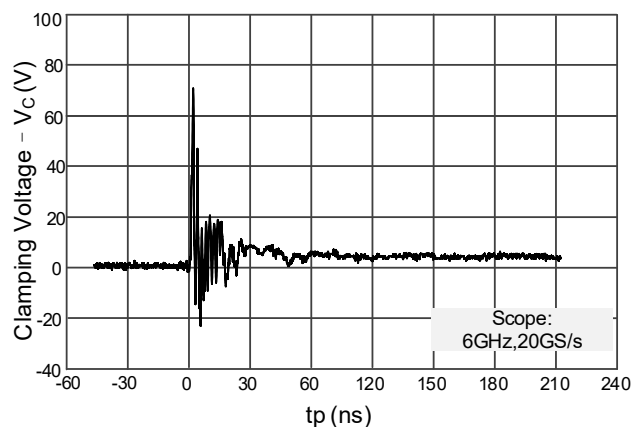
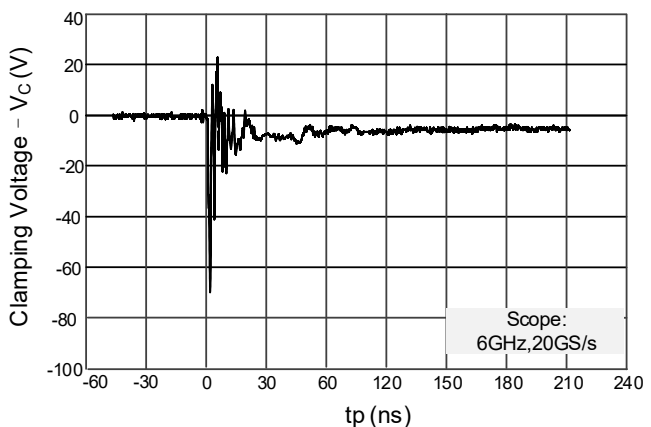
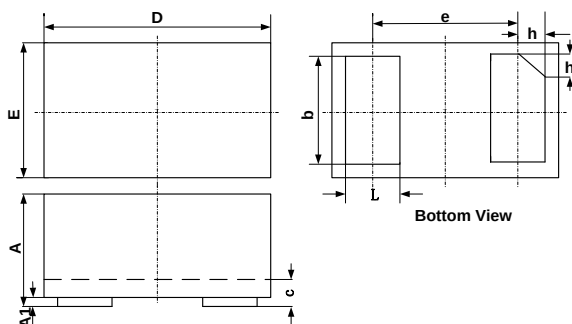


Figure6: IEC61000-4-2 -8 kV Contact ESD Clamping Voltage

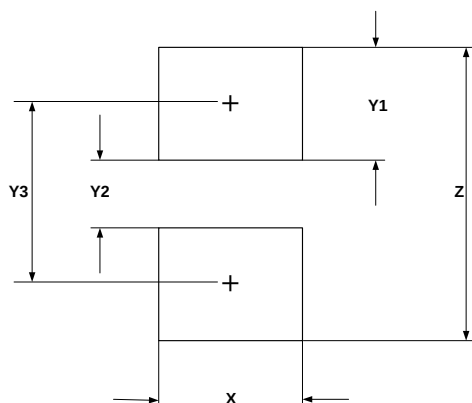


DFN1006Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

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