

### Features

- Ultra low capacitance: 0.5pF 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:  $\pm 25\text{kV}$
    - Contact discharge:  $\pm 20\text{kV}$
  - IEC61000-4-5 (Lightning) 5A (8/20 $\mu\text{s}$ )
- RoHS Compliant
- Lead Finish: NiPdAu

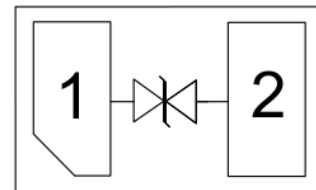
### Applications

- Smart phones
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports

### 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: S1

### Absolute Maximum Ratings ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

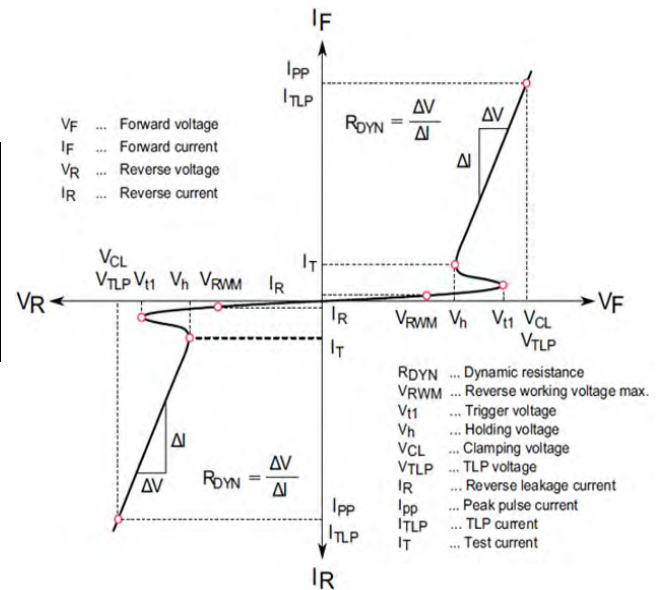
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pp</sub>	35	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 25$	Kv
ESD per IEC 61000-4-2 (Contact)		$\pm 20$	
Operating Temperature Range	T <sub>J</sub>	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	$^{\circ}\text{C}$

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

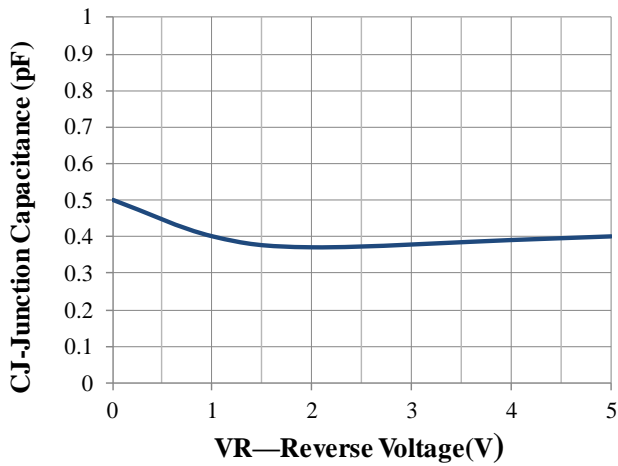
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>				5.0	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA	8.0	12.0	14.0	V
Holding Voltage	V <sub>h</sub>	I <sub>T</sub> = 100mA	2.6		4.0	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> = 5.0V			0.2	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A (8 x 20μs pulse)		5.0		V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 5A (8 x 20μs pulse)		6.0	8.0	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 12A (TLP)		4.82		V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 16A (TLP)		7.86		V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz		0.5	1.0	pF

**Portion Electronics Parameter**

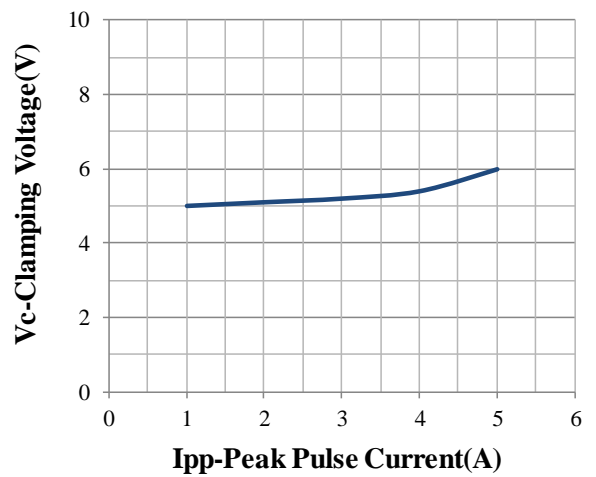
Symbol	Parameter
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @I <sub>C</sub>



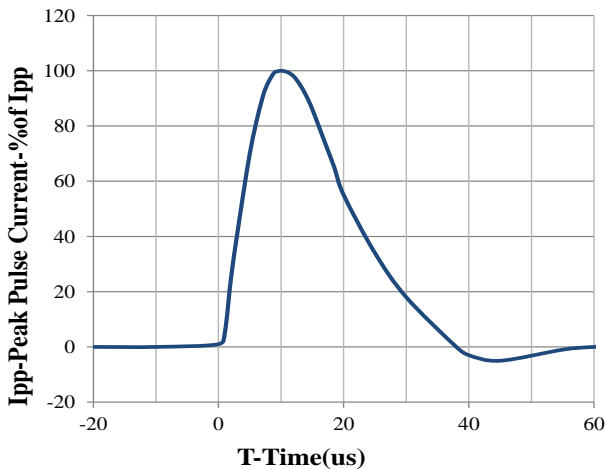
Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



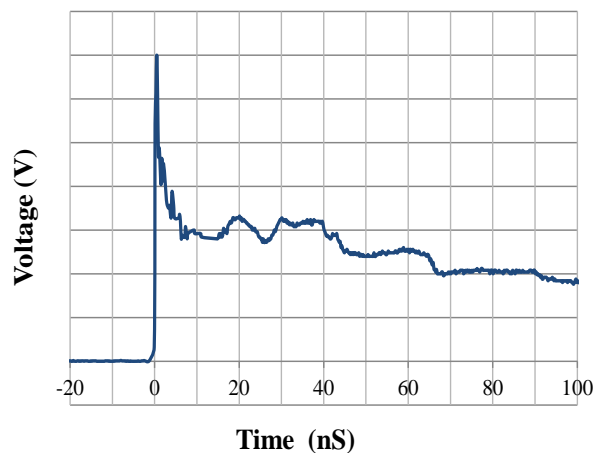
Junction Capacitance vs. Reverse Voltage



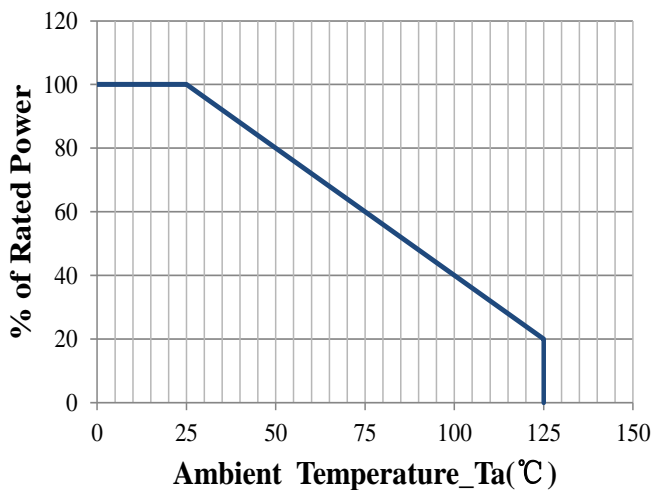
Clamping Voltage vs. Peak Pulse Current



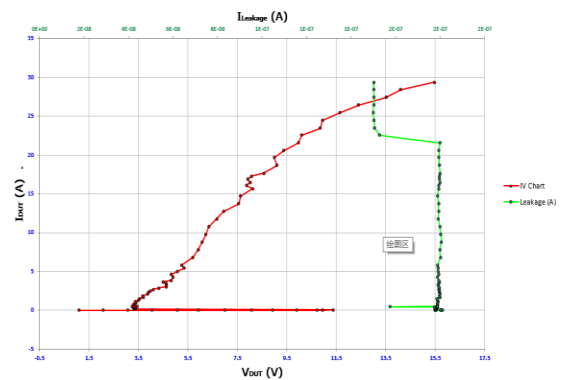
8 X 20us Pulse Waveform



IEC61000-4-2 Pulse Waveform

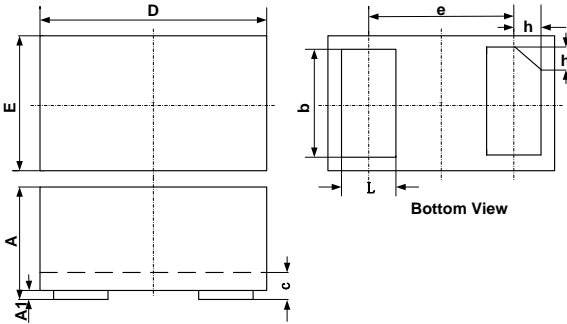


Power Derating Curve



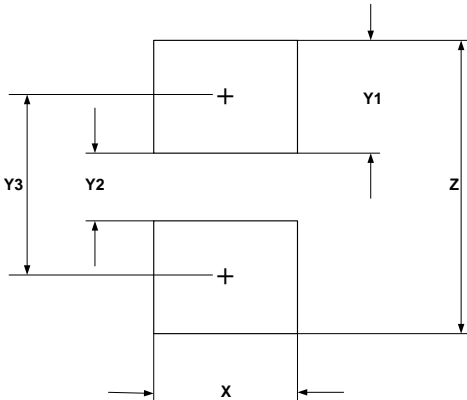
TLP Waveform

**DFN1006 PACKAGE OUTLINE & DIMENSIONS**



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.40	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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