

## Features

- Ultra small package: 1.0x0.6x0.5mm
- Low operating voltage:  $\pm 5V$
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 20kV$
    - Contact discharge:  $\pm 15kV$
  - – IEC61000-4-5 (Lightning) 5A (8/20 $\mu s$ )
- RoHS Compliant
- Lead Finish: NiPdAu

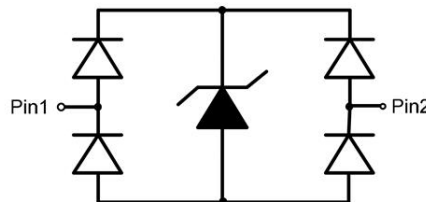
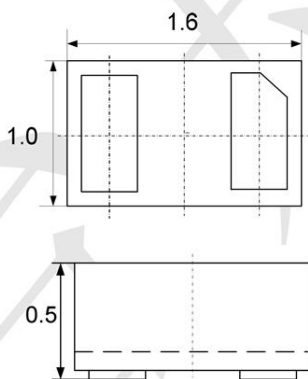
## Mechanical Characteristics

- Package: DFN1006-2 (0402)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty @10000/7Inch Tape & Reel

## Applications

- USB 2.0 and USB 3.0
- HDMI 1.3 and HDMI 1.4
- SATA and eSATA
- DVI
- IEEE 1394
- PCI Express
- Portable Electronics
- Notebooks

## Dimensions and Pin Configuration



**Marking: S1**

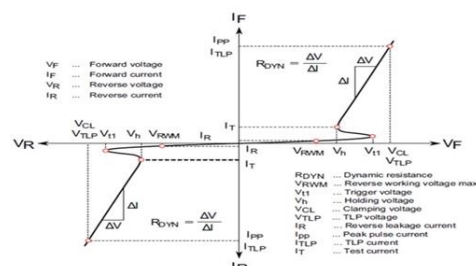
**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	35	W
Peak Pulse Current (8/20μs)	I <sub>PP</sub>	5	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±20	kV
ESD per IEC 61000-4-2 (Contact)		±15	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

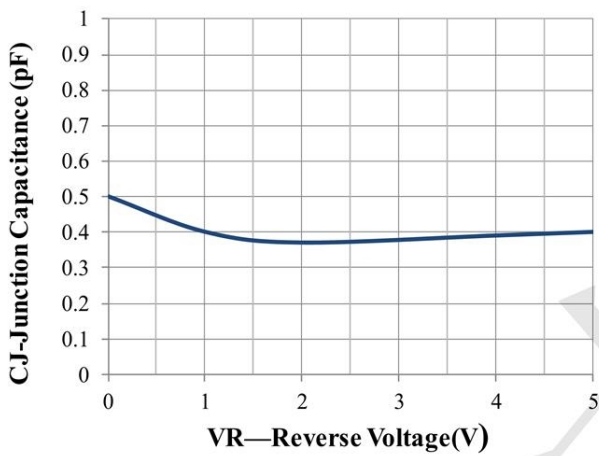
**Electrical Characteristics** (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	
Breakdown Voltage	V <sub>BR</sub>	8.0			V	I <sub>T</sub> = 1mA
Holding Voltage	V <sub>h</sub>	2.6		4.0	V	I <sub>T</sub> = 100mA
Reverse Leakage Current	I <sub>R</sub>			0.2	μA	V <sub>RWM</sub> = 5.0 V
Clamping Voltage	V <sub>C</sub>		5		V	I <sub>PP</sub> = 1A (8 x 20μs pulse)
Clamping Voltage	V <sub>C</sub>		6	8	V	I <sub>PP</sub> = 5 A (8 x 20μs pulse)
Junction Capacitance	C <sub>J</sub>		0.5		pF	V <sub>R</sub> = 0V, f = 1MHz

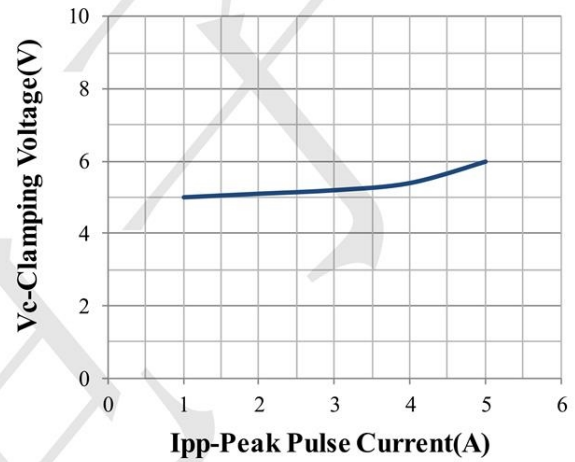
Symbol	Parameter
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @I <sub>C</sub>



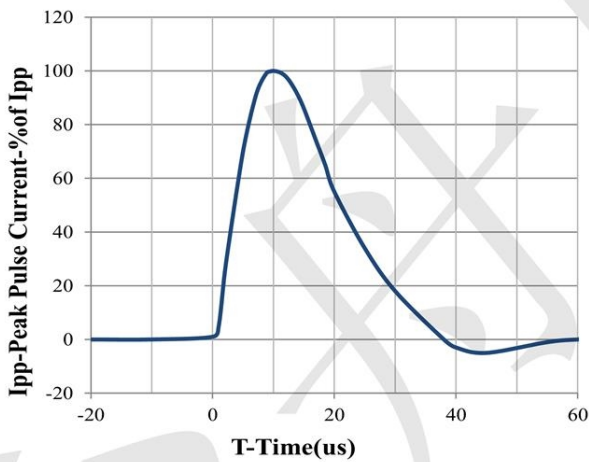
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



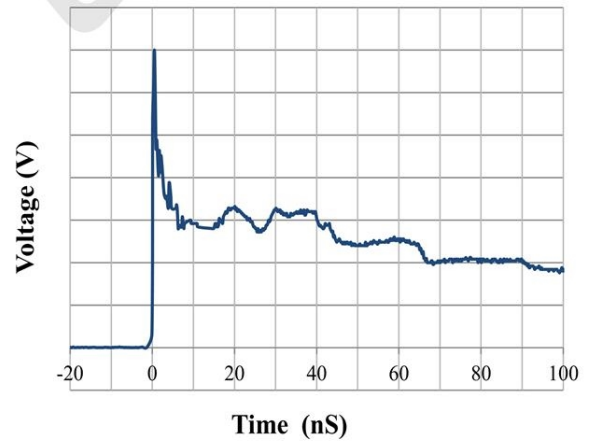
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



8 X 20us Pulse Waveform



IEC61000-4-2 Pulse Waveform

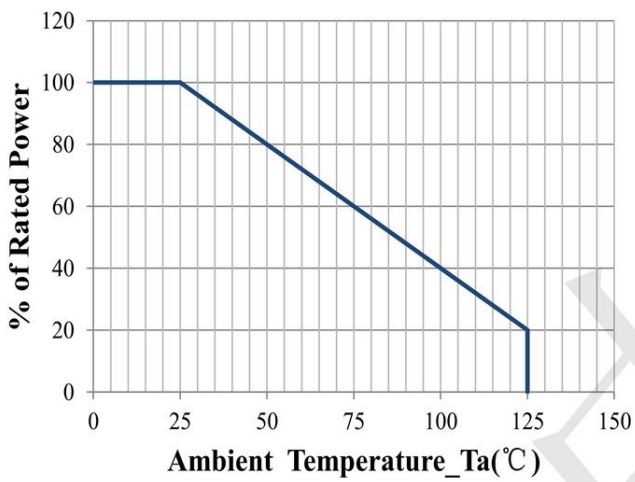


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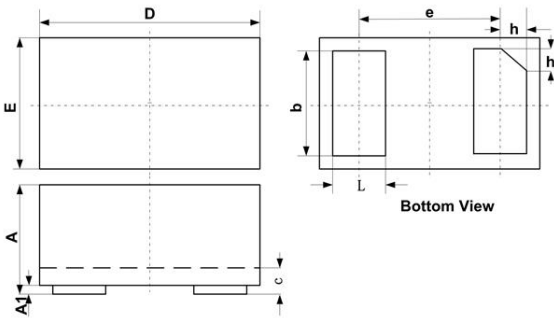
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**Power Derating Curve**

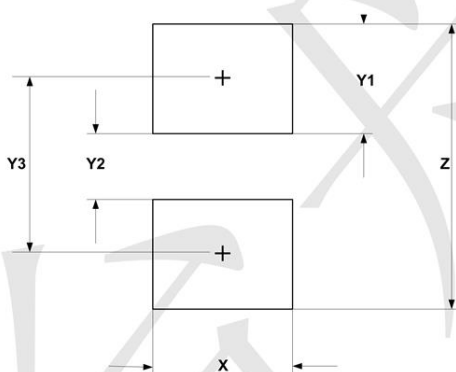


**DFN1006-2 Package Outline Drawing (0402)**



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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