

### Features

- Low operating voltage: 5V
- Ultra low capacitance: 0.4pF
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 30\text{kV}$
  - Contact discharge:  $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 8A (8/20 $\mu\text{s}$ )
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

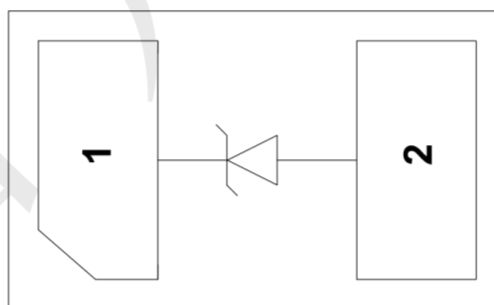
### Mechanical Characteristics

- Package: DFN1006-2(0402)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- USB 2.0 power and data line

### Dimensions and Pin Configuration



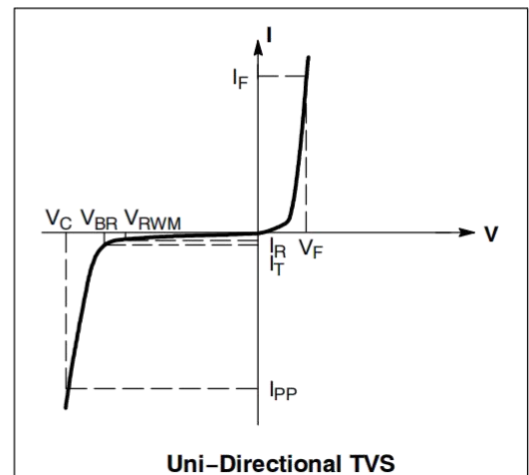
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>pk</sub>	84	W
Peak Pulse Current (8/20μs)	I <sub>pp</sub>	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

### Electrical Characteristics (T<sub>A</sub>=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>	6	--	9.5	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>	--	--	100	nA	V <sub>RWM</sub> =5V
Clamping Voltage	V <sub>C</sub>	--	5.5	7	V	I <sub>pp</sub> =1A(8x 20us pulse)
Clamping Voltage	V <sub>C</sub>	--	7.5	9	V	I <sub>pp</sub> =6A(8x 20us pulse)
Clamping Voltage	V <sub>C</sub>	--	8.5	10.5	V	I <sub>pp</sub> =8A(8x 20us pulse)
Junction Capacitance	C <sub>J</sub>	--	0.4	0.65	pF	V <sub>R</sub> = 0V, f = 1MHz

Symbol	Parameter
I <sub>pp</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>pp</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
P <sub>pk</sub>	Peak Power Dissipation
C	Capacitance @ V <sub>R</sub> = 0 and f = 1.0 MHz



### Characteristic Curves

Fig1. 8/20 $\mu$ s Pulse Waveform

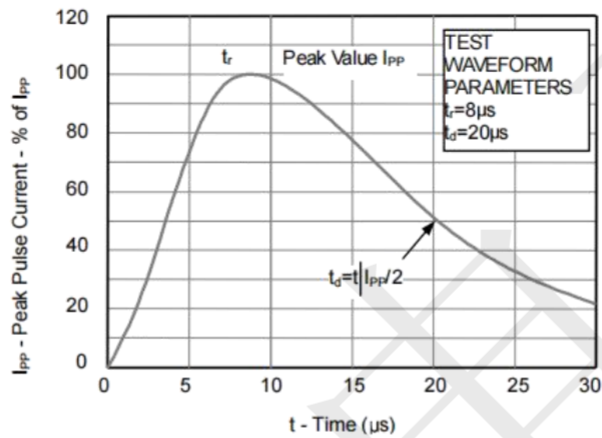


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

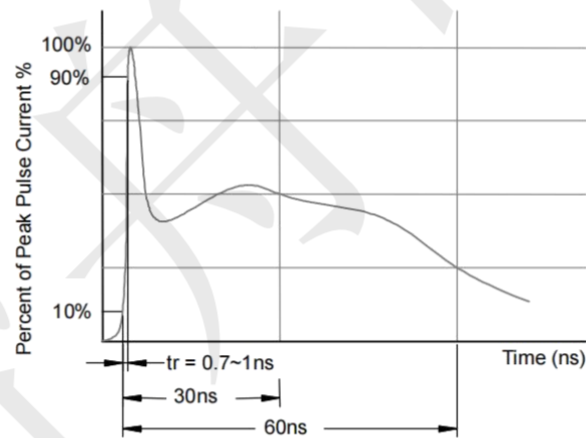
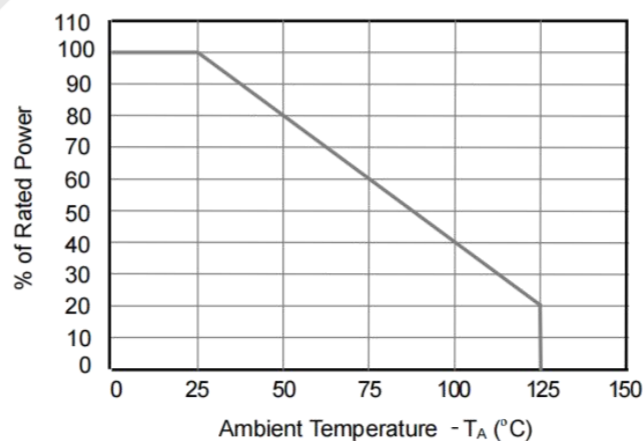
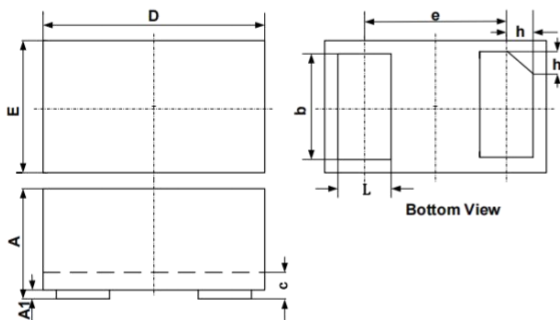


Fig3. Power Derating Curve



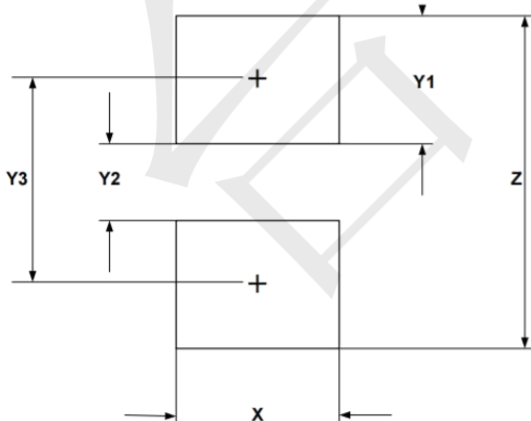
### Package Outline & Dimensions

#### DFN1006-2 (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