

## Features

- Low operating voltage: 15V
- Ultra low capacitance: 60pF (Max)
- 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) 6A (8/20 $\mu\text{s}$ )
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

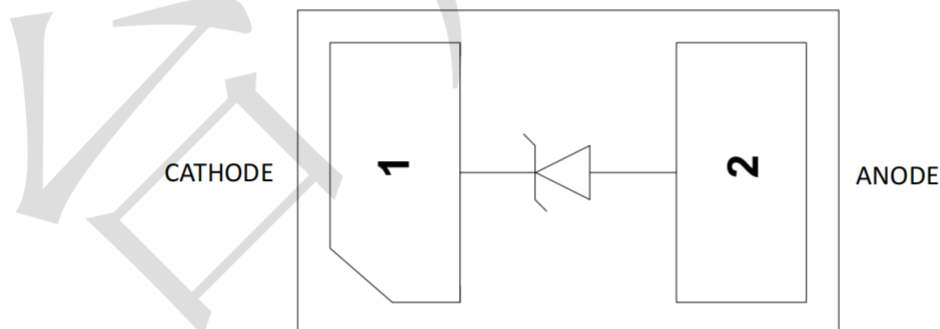
## Mechanical Characteristics

- 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
- Peripherals

## Dimensions and Pin Configuration



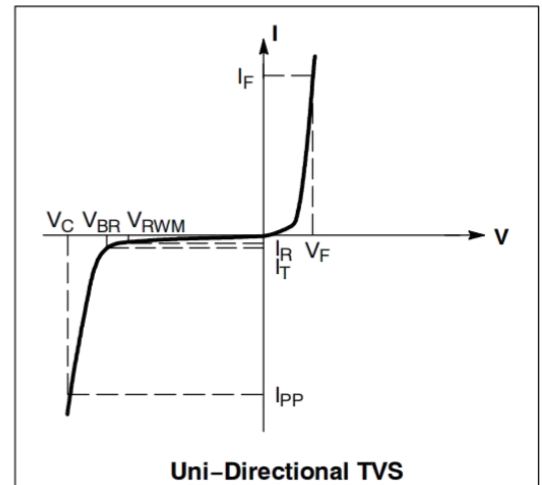
### Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter  | Symbol | Value       | Unit |
|--|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 180         | W    |
| Peak Pulse Current (8/20μs)                                    | Ipp    | 6           | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ±30<br>±30  | KV   |
| Operating Temperature Range                                    | TJ     | -55 to +125 | °C   |
| Storage Temperature Range                                      | Tstg   | -55 to +150 | °C   |

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

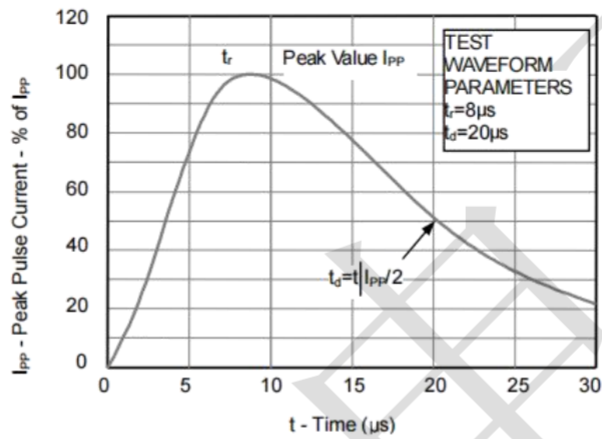
| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition        |
|-------------------------|--------|-----|-----|-----|------|-----------------------|
| Reverse Working Voltage | VRWM   | --  | --  | 15  | V    |                       |
| Breakdown Voltage       | VBR    | 16  | --  | --  | V    | IT= 1mA               |
| Forward voltage         | VF     | --  | 0.8 | 1.2 | V    | IF=1mA                |
| Reverse Leakage Current | IR     | --  | --  | 0.5 | uA   | VRWM=15V              |
| Clamping Voltage        | VC     | --  | 25  | --  | V    | Ipp=1A(8x 20us pulse) |
| Clamping Voltage        | VC     | --  | 22  | 35  | V    | Ipp=6A(8x 20us pulse) |
| Junction Capacitance    | CJ     | --  | --  | 60  | pF   | VR = 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   |

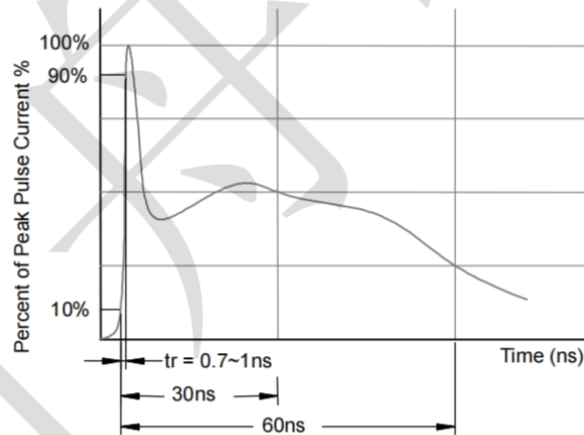


**Characteristic Curves**

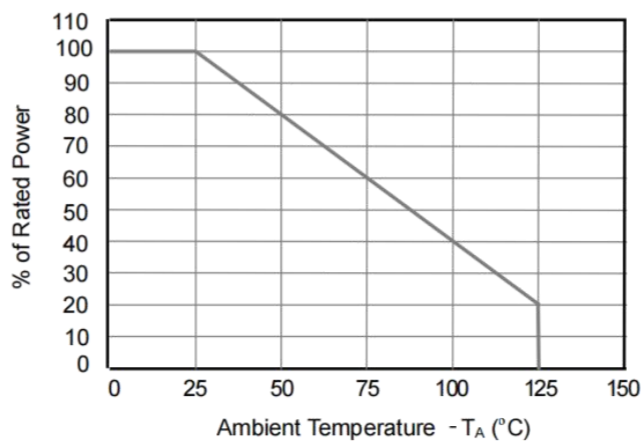
**Fig1. 8/20μs Pulse Waveform**



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

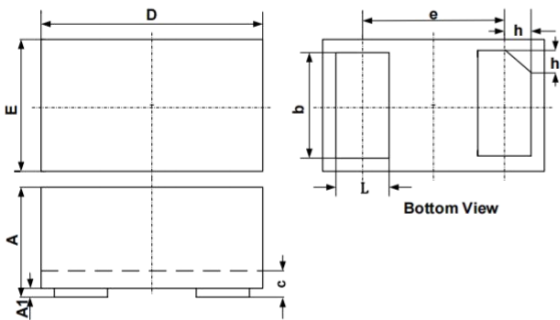


**Fig3. Power Derating Curve**



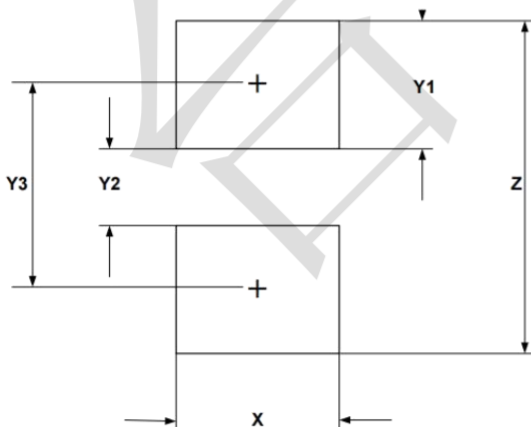
## Package Outline & Dimensions

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  |