

## Features

- Low operating voltage: 5V
- 2000W peak pulse power (8/20 $\mu$ s)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 30$ kV
  - Contact discharge:  $\pm 30$ kV
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 100A (8/20 $\mu$ s)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

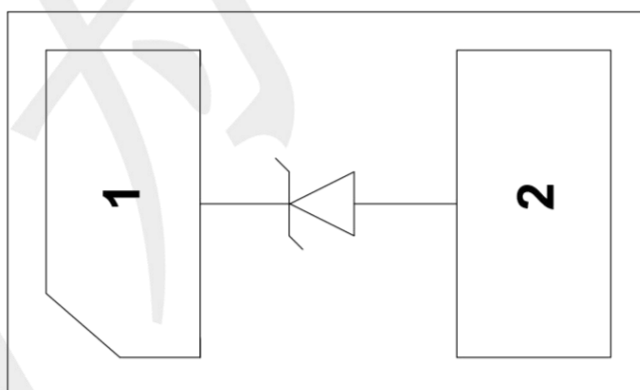
## Mechanical Characteristics

- Package: DFN1610-2
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

## Applications

- Power Management
- Industrial Application
- Power Supply Protection
- Portable Instrumentation
- Peripherals

## Dimensions and Pin Configuration



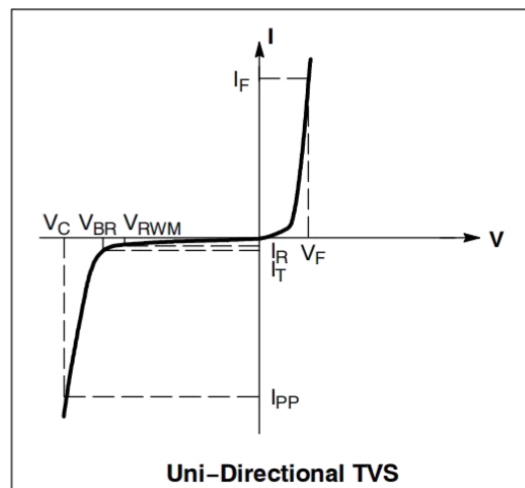
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                                                      | Symbol           | Value       | Unit |
|----------------------------------------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | P <sub>pk</sub>  | 2000        | W    |
| Peak Pulse Current (8/20μs)                                    | I <sub>pp</sub>  | 100         | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD             | ±30<br>±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)

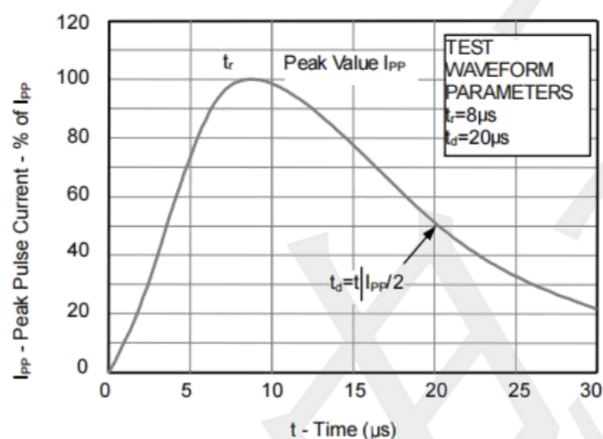
| Parameter               | Symbol           | Min | Typ | Max  | Unit | Test Condition                       |
|-------------------------|------------------|-----|-----|------|------|--------------------------------------|
| Reverse Working Voltage | V <sub>RWM</sub> | --  | --  | 5    | V    |                                      |
| Breakdown Voltage       | V <sub>BR</sub>  | 6   | 7.2 | 8    | V    | I <sub>T</sub> = 1mA                 |
| Reverse Leakage Current | I <sub>R</sub>   | --  | --  | 1    | uA   | V <sub>RWM</sub> =5V                 |
| Forward Voltage         | V <sub>F</sub>   | --  | 0.7 | 1.25 | V    | I <sub>F</sub> = 10mA                |
| Clamping Voltage        | V <sub>C</sub>   | --  | 10  | --   | V    | I <sub>pp</sub> =50A(8x 20us pulse)  |
| Clamping Voltage        | V <sub>C</sub>   | --  | 14  | 20   | V    | I <sub>pp</sub> =100A(8x 20us pulse) |
| Junction Capacitance    | C <sub>J</sub>   | --  | 860 | 1050 | 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   |

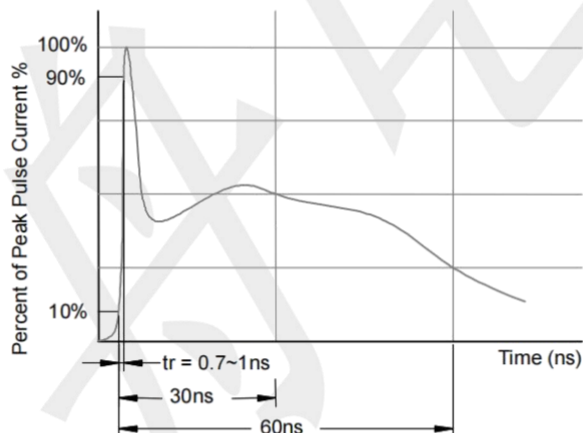


## Characteristic Curves

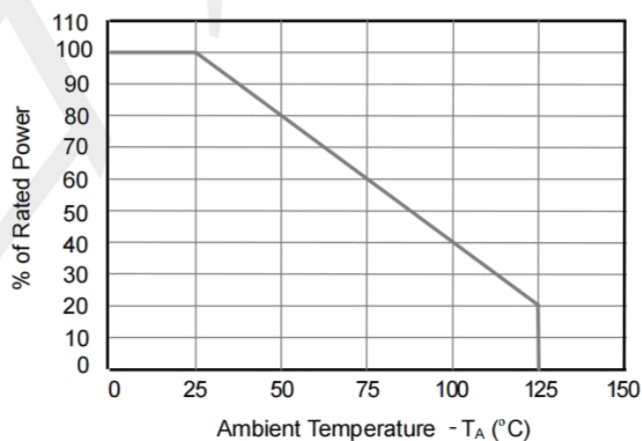
**Fig1. 8/20 $\mu$ s Pulse Waveform**



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

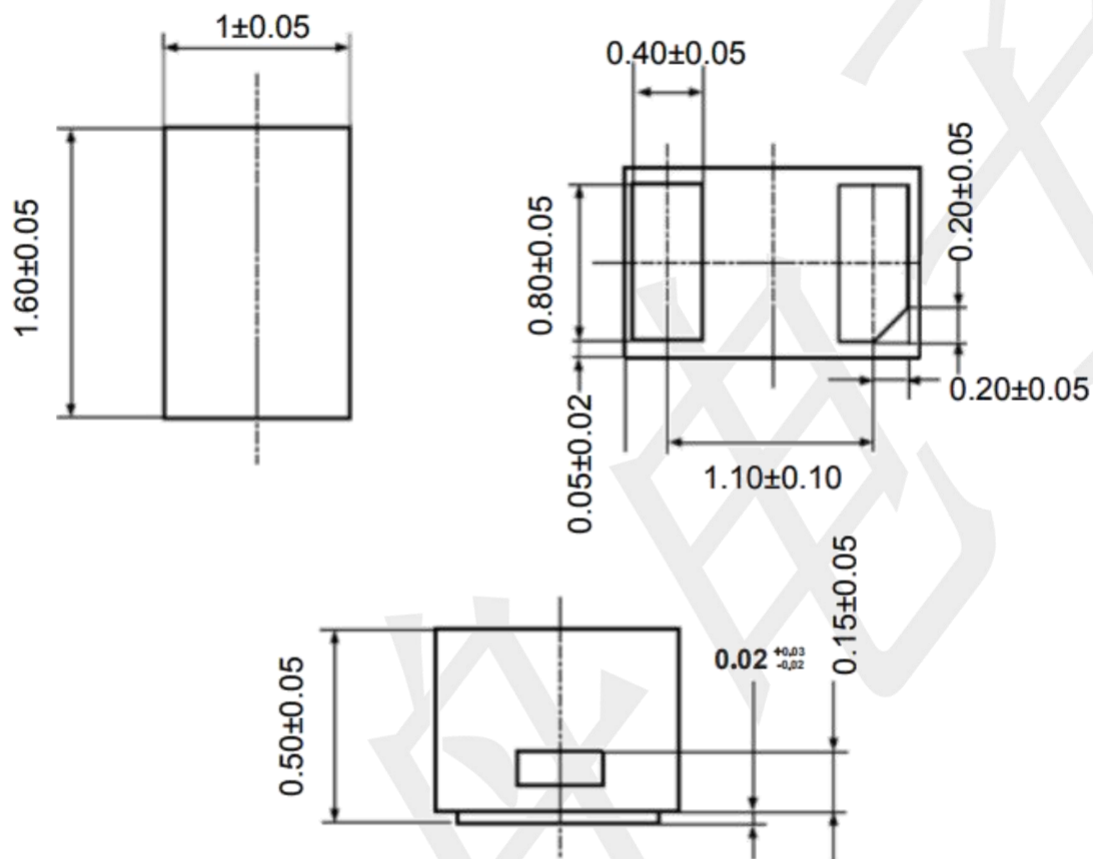


**Fig3. Power Derating Curve**



**Package Outline Dimensions (unit: mm)**

**DFN1610**



**Mounting Pad Layout (unit: mm)**

