

### Features

- Low operating voltage: 1V
- Ultra low capacitance: 0.2pF (Typ)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 15\text{kV}$
  - Contact discharge:  $\pm 12\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 4A (8/20 $\mu\text{s}$ )
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

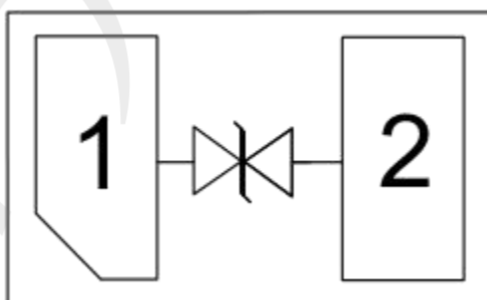
### Mechanical Characteristics

- Package: DFN0603-2(0201)
- 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
- USB Type-C Interface
- USB 3.1 / 3.2 Interface

### Dimensions and Pin Configuration



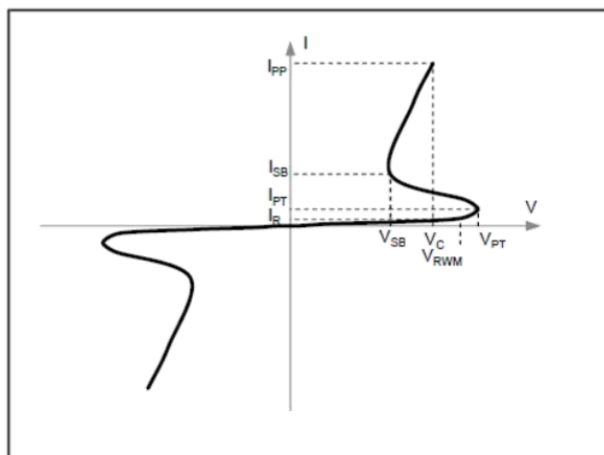
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                                                      | Symbol | Value       | Unit |
|----------------------------------------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 14          | W    |
| Peak Pulse Current (8/20μs)                                    | Ipp    | 4           | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ±15<br>±12  | 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)

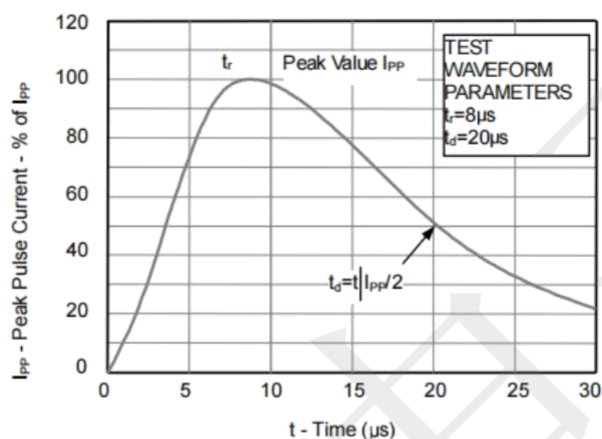
| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition        |
|-------------------------|--------|-----|-----|-----|------|-----------------------|
| Reverse Working Voltage | VRWM   | --  | --  | 1   | V    |                       |
| Breakdown Voltage       | VBR    | 2   | 2.9 | --  | V    | IT= 1mA               |
| Reverse Leakage Current | IR     | --  | --  | 0.1 | uA   | VRWM=1V               |
| Clamping Voltage        | VC     | --  | 1.8 | --  | V    | Ipp=1A(8x 20us pulse) |
| Clamping Voltage        | VC     | --  | 3   | 3.5 | V    | Ipp=4A(8x 20us pulse) |
| Junction Capacitance    | CJ     | --  | 0.2 | 0.3 | pF   | VR = 0V, f = 1MHz     |

| Symbol    | Definition              |
|-----------|-------------------------|
| $I_{PP}$  | Peak Pulse Current      |
| $V_C$     | Clamping Voltage        |
| $V_{RWM}$ | Reverse Working Voltage |
| $I_R$     | Reverse Leakage Current |
| $V_{BR}$  | Breakdown Voltage       |
| $I_T$     | Test Current            |
| $V_{PT}$  | Punch-Through Voltage   |
| $I_{PT}$  | Punch-Through Current   |

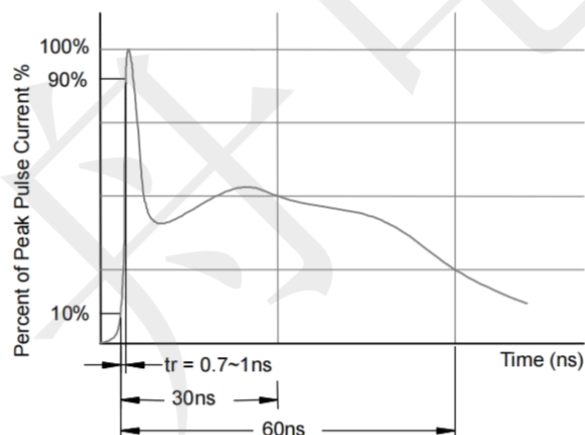


## Characteristic Curves

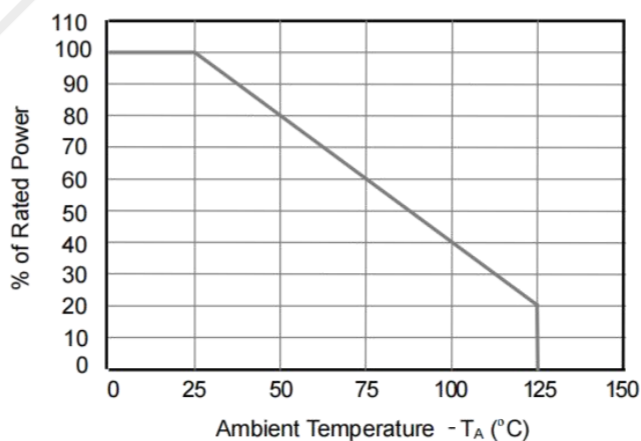
**Fig1. 8/20 $\mu$ s Pulse Waveform**



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

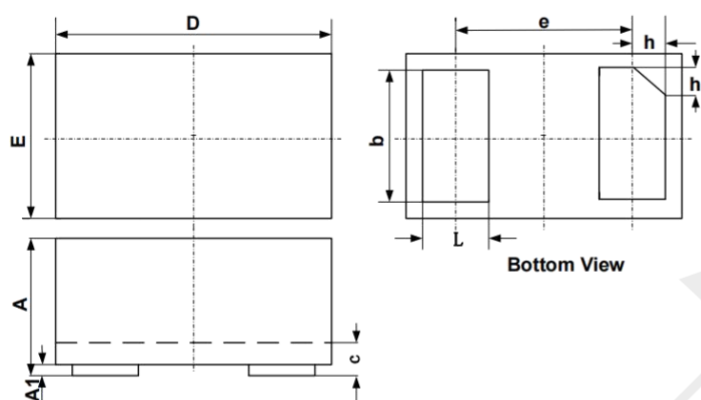


**Fig3. Power Derating Curve**



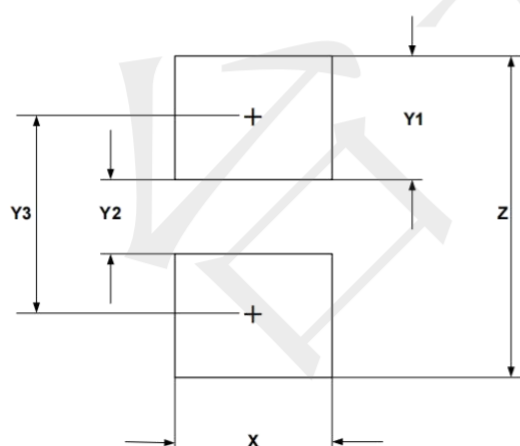
### Package Outline & Dimensions

#### DFN0603-2 (0201)



| SYM | DIMENSIONS  |       |       |
|-----|-------------|-------|-------|
|     | MILLIMETERS |       |       |
|     | MIN         | NOM   | MAX   |
| A   | 0.230       | 0.300 | 0.330 |
| A1  | 0.000       | 0.020 | 0.050 |
| b   | 0.215       | 0.245 | 0.275 |
| c   | 0.120       | 0.150 | 0.180 |
| D   | 0.550       | 0.600 | 0.650 |
| e   | 0.355 BSC   |       |       |
| E   | 0.250       | 0.300 | 0.350 |
| L   | 0.160       | 0.190 | 0.220 |
| h   | 0.079 BSC   |       |       |

### Suggested Land Pattern



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| X   | 0.30        | 0.012  |
| Y1  | 0.25        | 0.010  |
| Y2  | 0.15        | 0.006  |
| Y3  | 0.40        | 0.016  |
| Z   | 0.65        | 0.026  |