

## Features

- ◆ 250W peak pulse power(8/20 $\mu$ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 33V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - 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)4A (8/20 $\mu$ s)
- ◆ RoHS Compliant

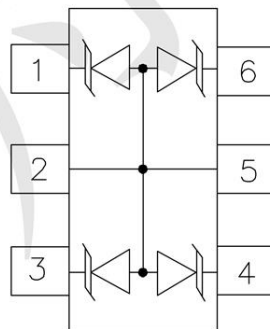
## Mechanical Characteristics

- ◆ Package: SOT23-6
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: “Green” Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Shipping Qty :3000 /7Inch Tape & Reel

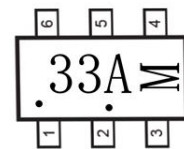
## Applications

- ◆ Mobile phone handsets
- ◆ Personal Digital Assistants (PDA)
- ◆ Portable handheld equipment (Laptop, Palmtop computers)
- ◆ Computer port, keyboard (USB1.1)

## Dimensions and Pin Configuration



## Marking:



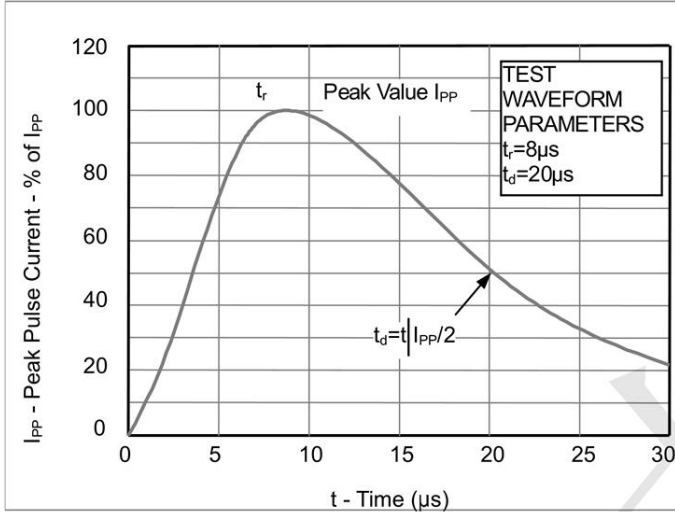
### Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 250         | W    |
| Peak Pulse Current (8/20μs)     | IPP    | 4           | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ± 30        | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ± 30        |      |
| Operating Temperature Range     | TJ     | -55 to +125 | °C   |
| Storage Temperature Range       | Tstg   | -55 to +150 | °C   |

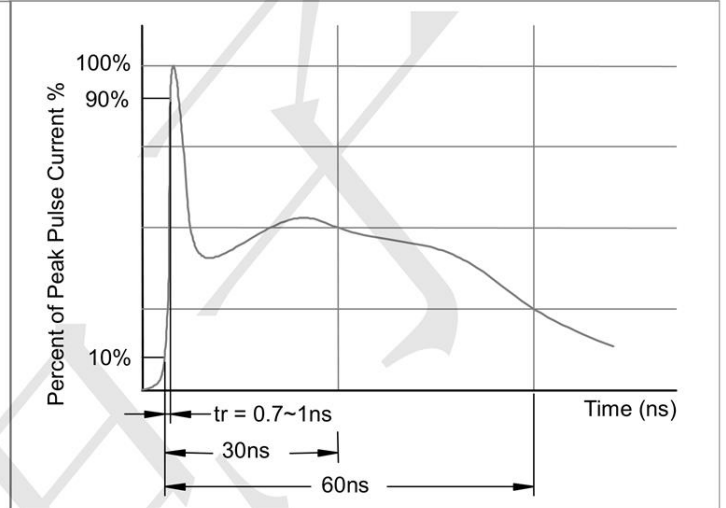
### Electrical Characteristics (TA=25°C unless otherwise specified)

| Parameter               | Symbol | Min  | Typ | Max | Unit | Test Condition            |
|-------------------------|--------|------|-----|-----|------|---------------------------|
| Reverse Working Voltage | VRWM   |      |     | 33  | V    |                           |
| Breakdown Voltage       | VBR    | 34.3 |     |     | V    | IT = 1mA                  |
| Reverse Leakage Current | IR     |      |     | 0.1 | μA   | VRWM = 33 V               |
| Forward Voltage         | VF     |      | 0.8 | 1.2 | V    | IF = 10mA                 |
| Clamping Voltage        | VC     |      |     | 55  | V    | IPP = 1A (8 x 20μs pulse) |
| Clamping Voltage        | VC     |      |     | 60  | V    | IPP = 4A (8 x 20μs pulse) |
| Junction Capacitance    | CJ     |      |     | 33  | pF   | VR=0, f=1MHz, IO to GND   |

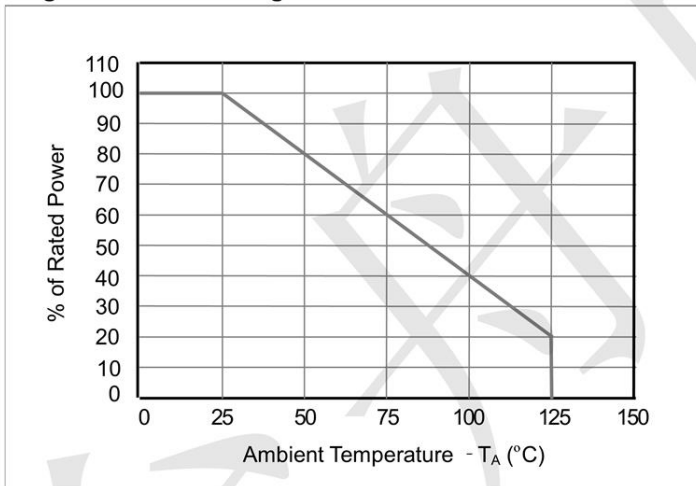
**Fig1. 8/20 $\mu$ s Pulse Waveform**



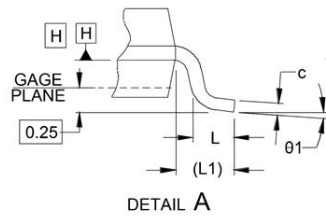
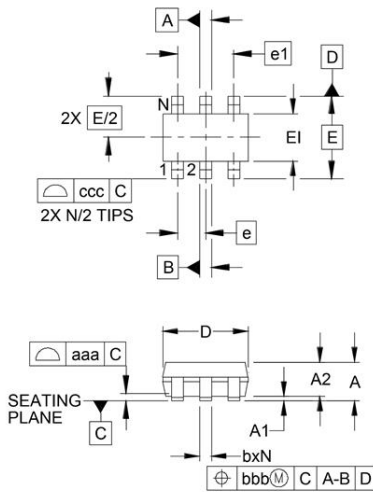
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

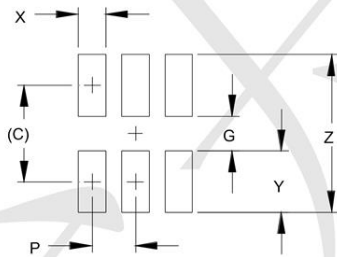


**Outline Drawing - SOT23-6**



| DIM | INCHES   |      |      | MILLIMETERS |      |      |
|-----|----------|------|------|-------------|------|------|
|     | MIN      | NOM  | MAX  | MIN         | NOM  | MAX  |
| A   | .035     | -    | .057 | 0.90        | -    | 1.45 |
| A1  | .000     | -    | .006 | 0.00        | -    | 0.15 |
| A2  | .035     | .045 | .051 | .90         | 1.15 | 1.30 |
| b   | .010     | -    | .020 | 0.25        | -    | 0.50 |
| c   | .003     | -    | .009 | 0.08        | -    | 0.22 |
| D   | .110     | .114 | .118 | 2.80        | 2.90 | 3.00 |
| E1  | .060     | .063 | .069 | 1.50        | 1.60 | 1.75 |
| E   | .110 BSC |      |      | 2.80 BSC    |      |      |
| e   | .037 BSC |      |      | 0.95 BSC    |      |      |
| e1  | .075 BSC |      |      | 1.90 BSC    |      |      |
| L   | .012     | .018 | .024 | 0.30        | 0.45 | 0.60 |
| L1  | (.024)   |      |      | (0.60)      |      |      |
| N   | 6        |      |      | 6           |      |      |
| θ1  | 0°       | -    | 10°  | 0°          | -    | 10°  |
| aaa | .004     |      |      | 0.10        |      |      |
| bbb | .008     |      |      | 0.20        |      |      |
| ccc | .008     |      |      | 0.20        |      |      |

**Land Pattern - SOT23-6**



| DIM | DIMENSIONS |             |
|-----|------------|-------------|
|     | INCHES     | MILLIMETERS |
| C   | (.098)     | (2.50)      |
| G   | .055       | 1.40        |
| P   | .037       | 0.95        |
| X   | .024       | 0.60        |
| Y   | .043       | 1.10        |
| Z   | .141       | 3.60        |

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