

## Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - 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 $\mu\text{s}$ )
- RoHS Compliant

## Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0



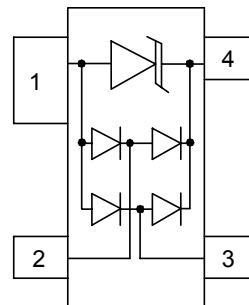
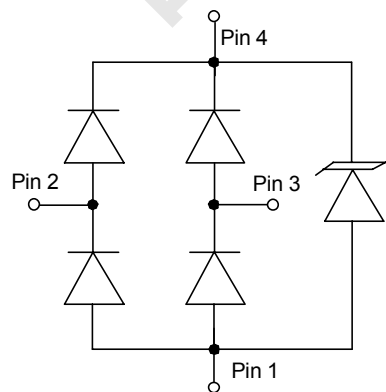
## Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

## Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|--------------|-----------|
| SR05        | 3000         | 7"        |

## Dimensions and Pin Configuration



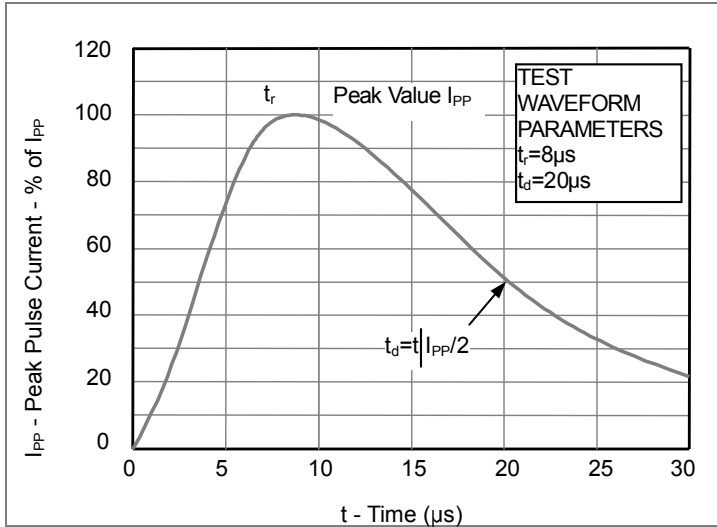
**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter                                                      | Symbol | Value       | Unit |
|----------------------------------------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 150         | 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   |

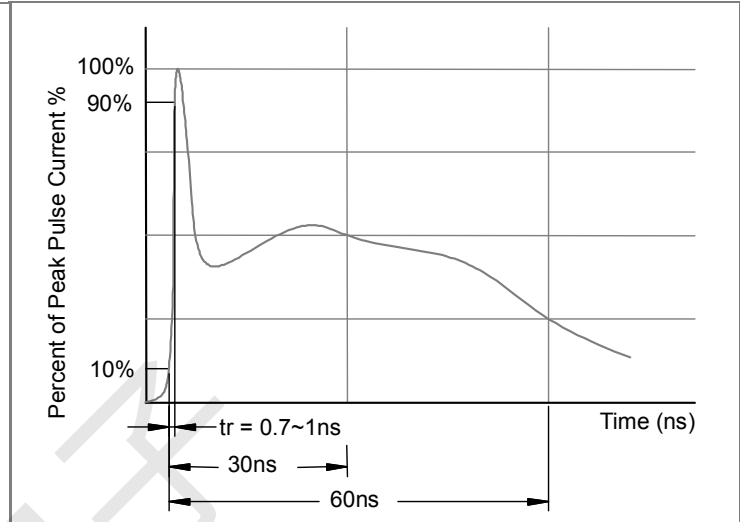
**Electrical Characteristics** (TA=25°C unless otherwise specified)

| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition            |
|-------------------------|--------|-----|-----|-----|------|---------------------------|
| Reverse Working Voltage | VRWM   |     |     | 5   | V    |                           |
| Breakdown Voltage       | VBR    | 6   |     |     | V    | IT = 1mA                  |
| Reverse Leakage Current | IR     |     |     | 0.1 | uA   | VRWM =5V                  |
| Clamping Voltage        | VC     |     |     | 15  | V    | Ipp = 1A (8 x 20μs pulse) |
| Clamping Voltage        | VC     |     |     | 25  | V    | Ipp = 6A (8 x 20μs pulse) |
| Junction Capacitance    | CJ     |     | 0.3 | 0.5 | pF   | VR = 0V, f = 1MHz         |

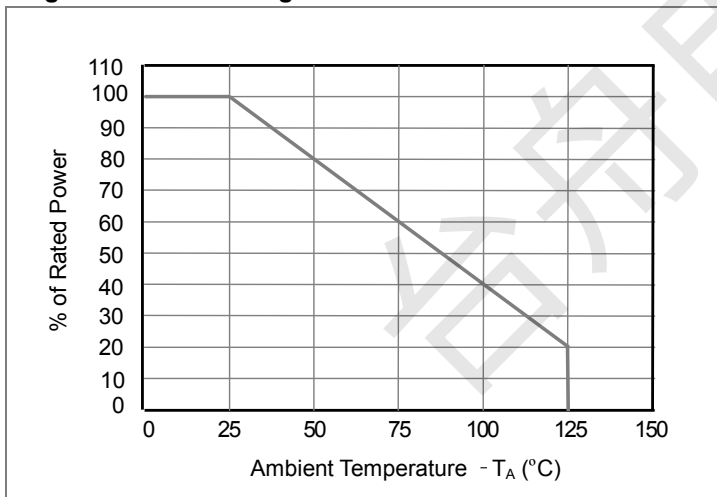
**Fig1. 8/20 $\mu$ s Pulse Waveform**



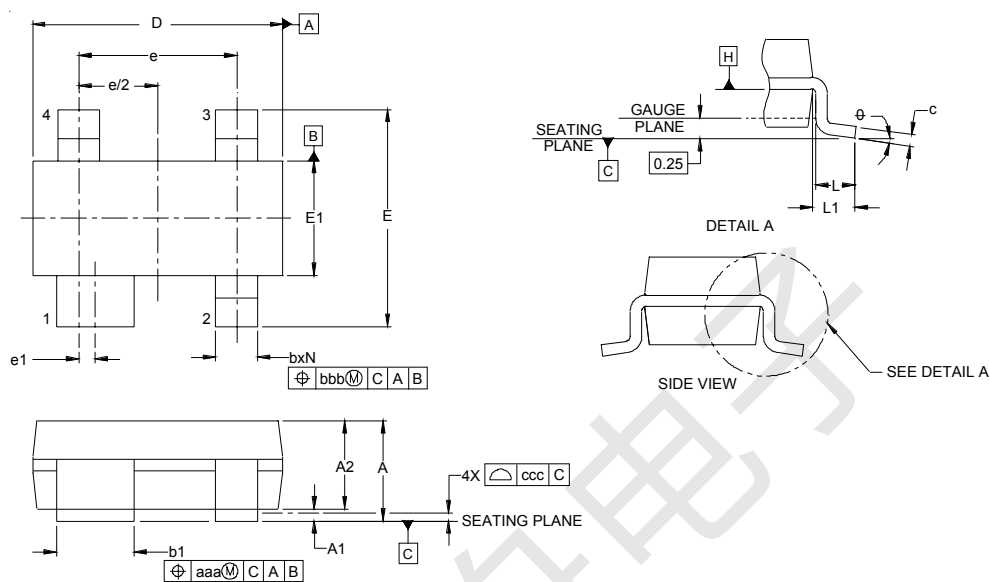
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

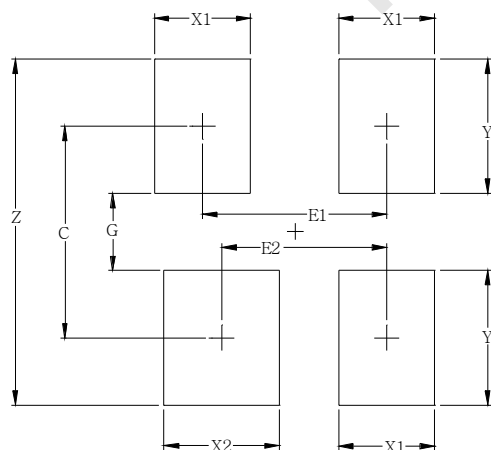


## Outline Drawing - SOT-143



| DIM | INCHES |        |      | MILLIMETERS |        |      |
|-----|--------|--------|------|-------------|--------|------|
|     | MIN    | NOM    | MAX  | MIN         | NOM    | MAX  |
| A   | .031   | -      | .048 | 0.80        | -      | 1.22 |
| A1  | .000   | -      | .006 | 0.013       | -      | 0.15 |
| A2  | .029   | .035   | .042 | 0.75        | 0.90   | 1.07 |
| b   | .011   | -      | .020 | 0.30        | -      | 0.51 |
| b1  | .029   | -      | .037 | 0.76        | -      | 0.94 |
| c   | .003   | -      | .008 | 0.08        | -      | 0.20 |
| D   | .110   | .114   | .120 | 2.80        | 2.90   | 3.04 |
| E   | .082   | .093   | .104 | 2.10        | 2.37   | 2.64 |
| E1  | .047   | .051   | .055 | 1.20        | 1.30   | 1.40 |
| e   | .075   | -      | -    | 1.92        | BSC    | -    |
| e1  | .008   | -      | -    | 0.20        | BSC    | -    |
| L   | .015   | .020   | .024 | 0.40        | 0.50   | 0.60 |
| L1  | -      | (.021) | -    | -           | (0.54) | -    |
| N   | 4      | -      | -    | 4           | -      | -    |
| φ   | 0°     | -      | 8°   | 0°          | -      | 8°   |
| aaa | .006   | -      | -    | 0.15        | -      | -    |
| bbb | .008   | -      | -    | 0.20        | -      | -    |
| ccc | .004   | -      | -    | 0.10        | -      | -    |

## Land Pattern -SOT-143



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| C   | 2.20        | 0.087  |
| E1  | 1.92        | 0.076  |
| E2  | 1.72        | 0.068  |
| G   | 0.80        | 0.031  |
| X1  | 1.00        | 0.039  |
| X2  | 1.20        | 0.047  |
| Y   | 1.40        | 0.055  |
| Z   | 3.60        | 0.141  |