

## 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

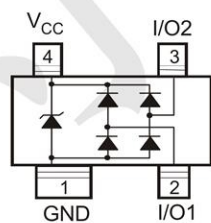
## Applications

- 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 |
|-------------|--------------|-----------|
| PSR05       | 3000         | 7"        |

## Dimensions and Pin Configuration



Device Schematic

**Marking: R05 Or 5A**

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

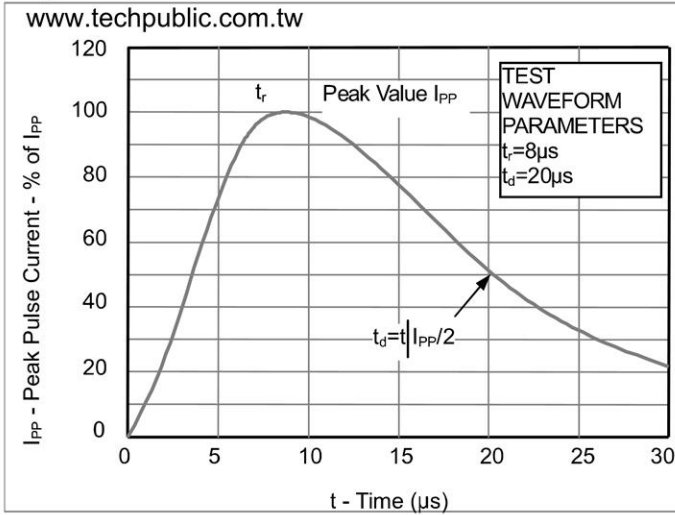
| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 100         | W    |
| Peak Pulse Current (8/20μs)     | Ipp    | 6           | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ±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)

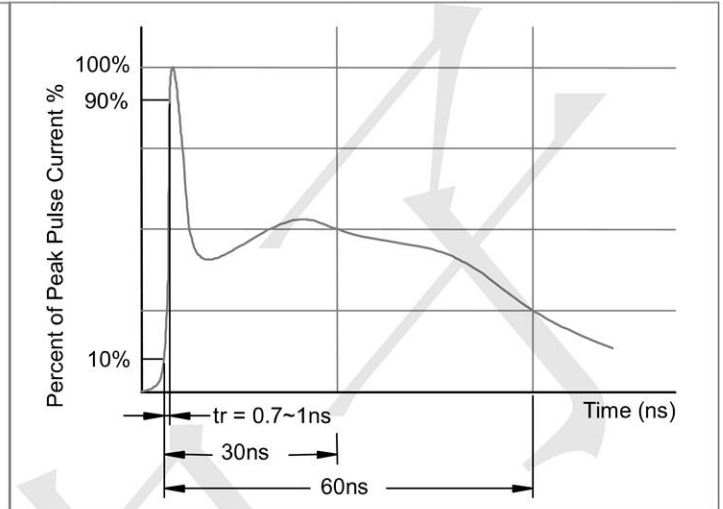
| Parameter               | Symbol | Min | Typ  | Max  | Unit | Test Condition                        |
|-------------------------|--------|-----|------|------|------|---------------------------------------|
| Reverse Working Voltage | VRWM   |     |      | 5    | V    |                                       |
| Breakdown Voltage       | VBR    | 6.5 |      |      | V    | IT = 1mA                              |
| Reverse Leakage Current | IR     |     |      | 0.08 | uA   | VRWM =5V                              |
| Clamping Voltage        | VC     |     |      | 10   | V    | I <sub>PP</sub> = 1A (8 x 20μs pulse) |
| Clamping Voltage        | VC     |     |      | 15   | V    | I <sub>PP</sub> = 6A (8 x 20us pulse) |
| Junction Capacitance    | CJ     |     |      | 0.9  | pF   | VR = 0V, f = 1MHz (IO to GND)         |
| Junction Capacitance    | CJ     |     | 0.35 |      | pF   | VR = 0V, f = 1MHz (IO to IO)          |

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

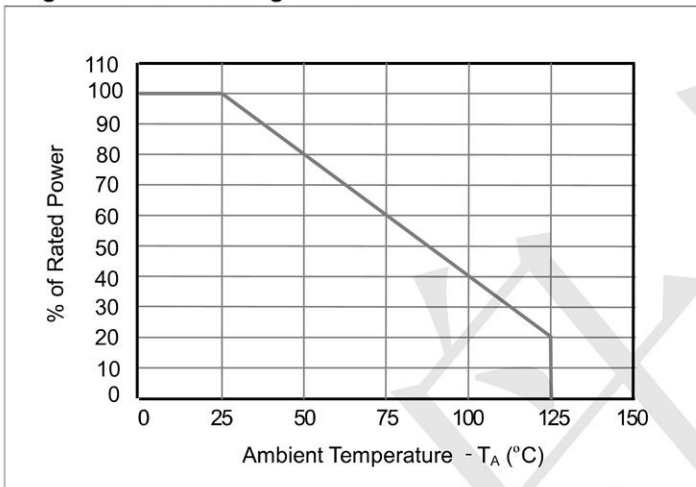
**Fig1. 8/20 $\mu\text{s}$  Pulse Waveform**



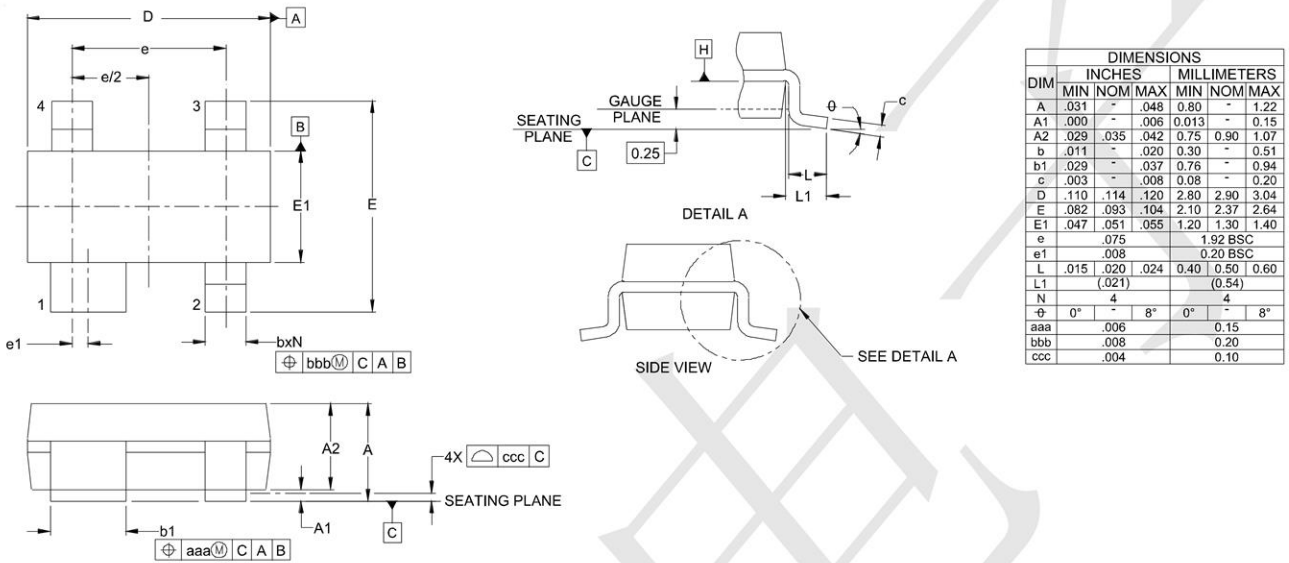
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



### Outline Drawing - SOT-143



### Land Pattern -SOT-143

