

Features

- ◆ Supports USB 3.0 data rates (5 Gbps)
- ◆ Ultra low capacitance: 0.4pF typical I/O to GND
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 5.5V
- ◆ Uni-directional TVS Diode Array
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±20kV
 - Contact discharge: ±18kV
 - IEC61000-4-5 (Lightning)3.3A (8/20 μs)
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ ROHS Compliant

Mechanical Characteristics

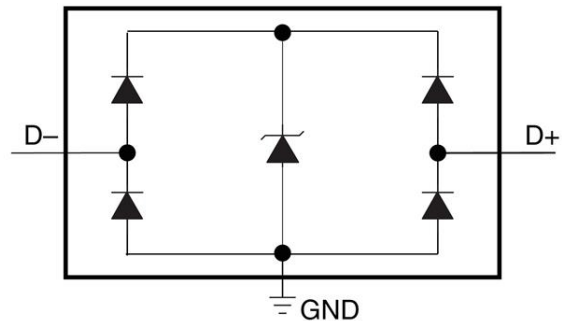
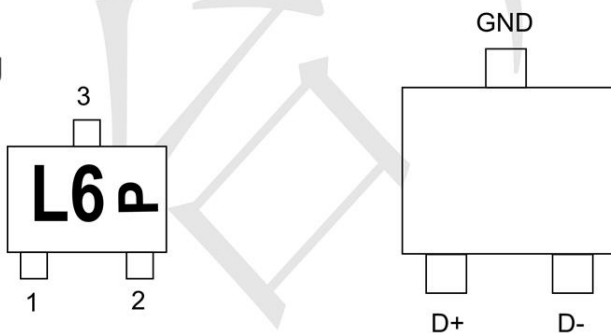
- Package: SOT-9X3
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty : 8000pcs/7Inch Tape & Reel

Applications

- Notebooks
- Set-top boxes
- DVD players
- Media players
- Portable computers

Dimensions and Pin Configuration

Marking



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

| Parameter | Symbol | Value | Unit |
|--------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20µs) | Ppk | 50 | W |
| ESD per IEC61000-4-2 (Air) | V _{ESD} | ±20 | kV |
| ESD per IEC61000-4-2 (Contact) | | ±18 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-----------------------------------|-------------------|-----|-----|------|------|--|
| Reverse Working Voltage | V _{RWM} | | | 5.5 | V | |
| Breakdown Voltage | V _{BR} | 7 | | | V | I _T =1mA |
| Leakage Current | I _{Leak} | | | 100 | nA | V _{RWM} =2.5V |
| Dynamic resistance | R _{DYN} | | 0.6 | | Ω | any I/O pin to GND |
| Clamping Voltage (I/O-GND) | V _C | | | 13 | V | I _{PP} =1A, T _p =8/20 µs |
| Clamping Voltage (I/O-GND) | V _C | | | 18 | V | I _{PP} =3A, T _p =8/20 µs |
| Junction Capacitance (I/O to GND) | C _J | | 0.4 | | pF | V _R =0V, f=1MHz, |
| Junction Capacitance (I/O to I/O) | C _J | | 0.2 | 0.35 | pF | V _R =0V, f=1MHz, |

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

Fig1. 8/20 μs Pulse Waveform

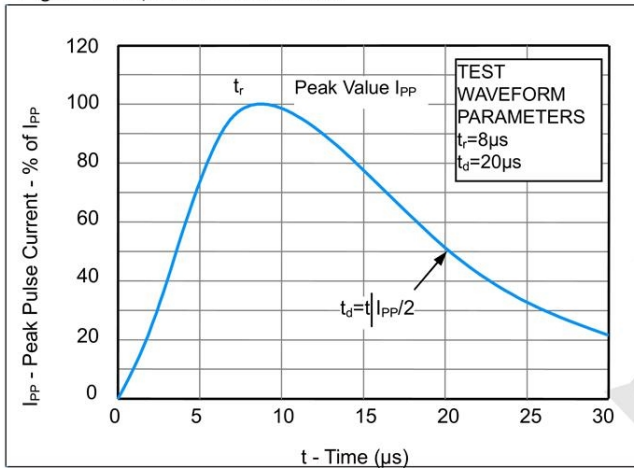


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

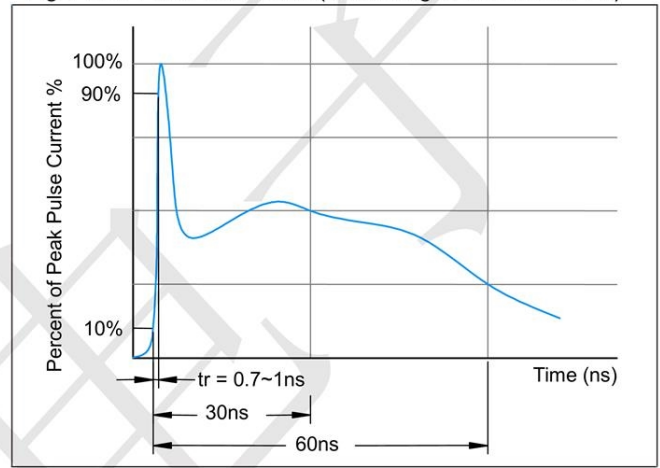
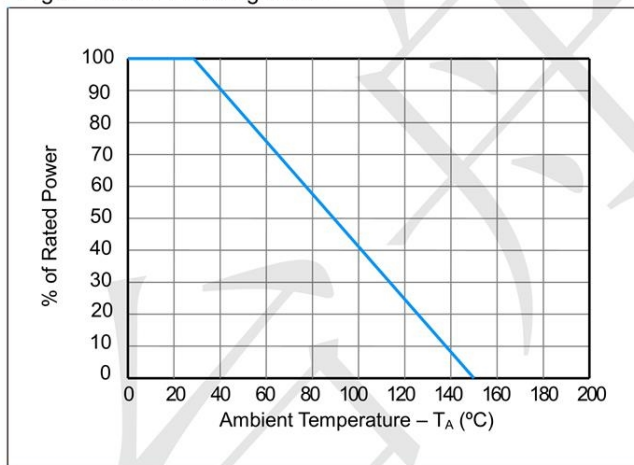
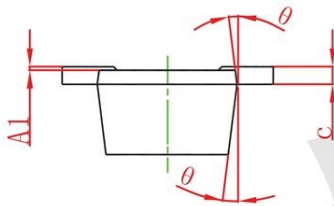
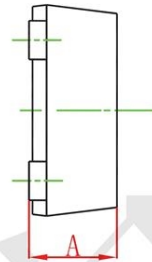
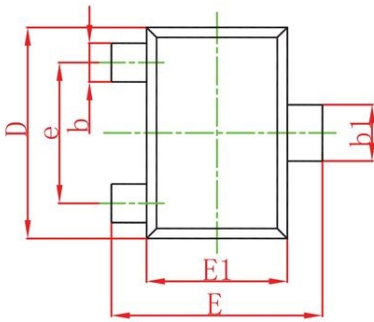


Fig3. Power Derating Curve



SOT-9X3 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.430 | 0.500 | 0.017 | 0.020 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| b | 0.170 | 0.270 | 0.007 | 0.011 |
| b1 | 0.270 | 0.370 | 0.011 | 0.015 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.150 | 1.250 | 0.045 | 0.049 |
| E | 1.150 | 1.250 | 0.045 | 0.049 |
| E1 | 0.750 | 0.850 | 0.030 | 0.033 |
| e | 0.800TYP. | | 0.031TYP. | |
| θ | 7° REF. | | 7° REF. | |