

Features

- ◆ Ultra low capacitance: 1.5pF(Max)
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 5.5V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 8\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ ROHS Compliant

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|--------------|--------------|-----------|
| TPD2E001DRLR | 4000 | 7" |

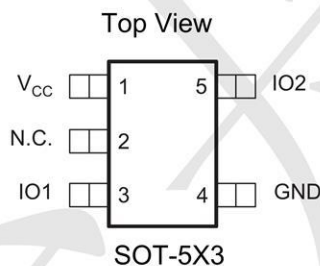
Mechanical Characteristics

- ◆ Package: SOT-5X3
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J-STD-020

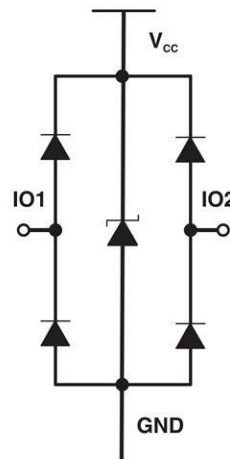
Applications

- ◆ USB 2.0 and USB 3.0 Ports
- ◆ USB OTG
- ◆ Digital video interface(DVI)
- ◆ Monitor and Flat Panel Displays
- ◆ PCI Express and Serial SATA Ports
- ◆ Gigabit Ethernet
- ◆ IEEE 1394 firewire ports
- ◆ Consumer products (STB, DVD, DSC, DVC...)

Dimensions and Pin Configuration



Marking: 2AZ



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

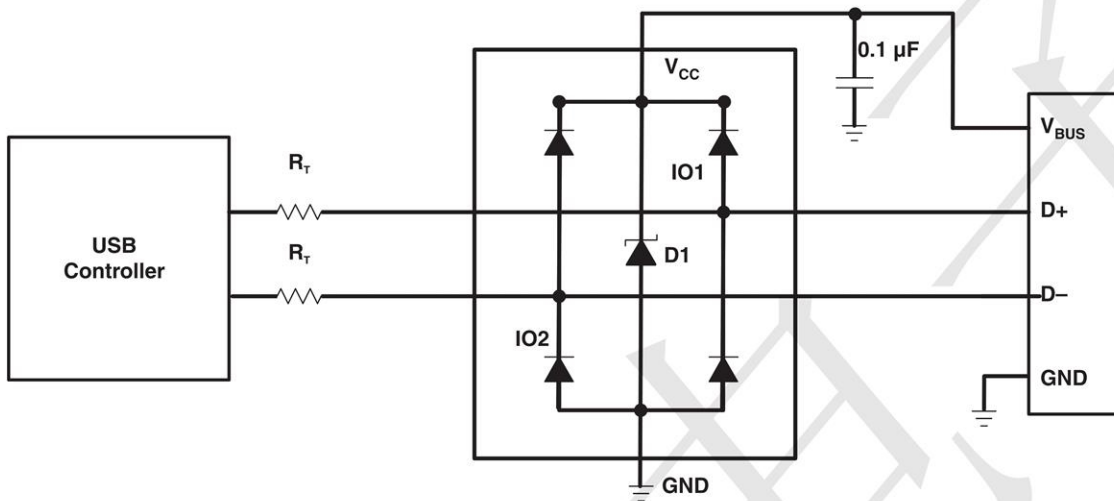
| Parameter | Symbol | Value | Unit |
|------------------------------------|-------------------|-------|------|
| Power pin voltage | V _{CC} | 7 | V |
| ESD Protection (per IEC 61000-4-2) | Air Discharge | 15 | kV |
| | Contact Discharge | 8 | |

| Parameter | Symbol | Min. | Nom. | Max. | Unit |
|-----------------------|------------------|------|------|------|------|
| Operating Temperature | T _J | -55 | +25 | +150 | °C |
| Storage Temperature | T _{STG} | -55 | +25 | +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit |
|--|-------------------------|-----|-----|-----|------|
| Working Peak Reverse Voltage | V _{WM} | | | 5.5 | V |
| Breakdown Voltage @ 1 mA | V _{BR} | 6.5 | 8 | 11 | V |
| Leakage Current @ V _{WM} | I _D | | | 0.1 | μA |
| Capacitance | C _{j(SD)} | | | 1.5 | pF |
| Forward Surge Rating (1/20 s @ 25 °C, I _F = 10 mA) | V _F | 0.6 | | 1.2 | V |
| Clamping Voltage (per IEC 61000-4-5) 8/20 μs) | @ I _{PP} = 1 A | | | 12 | V |
| | @ I _{PP} = 4A | | | 15 | |

Application Schematic



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

Fig1. 8/20 μs Pulse Waveform

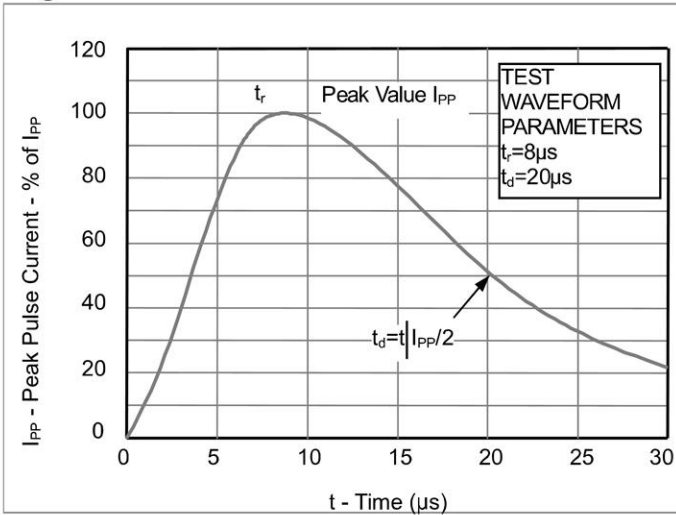


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

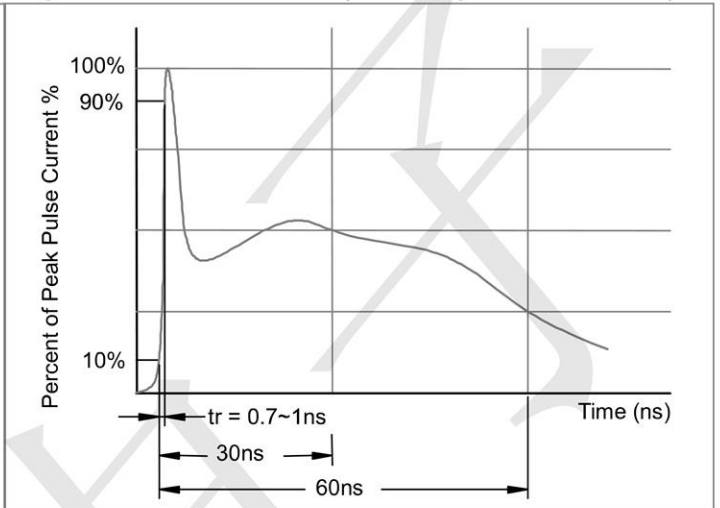
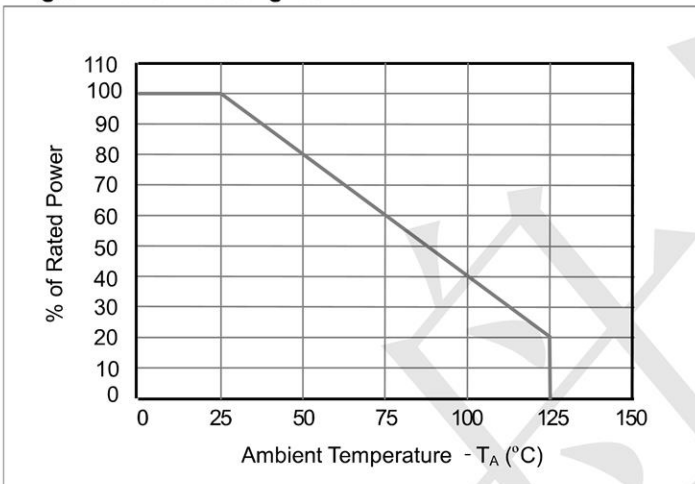
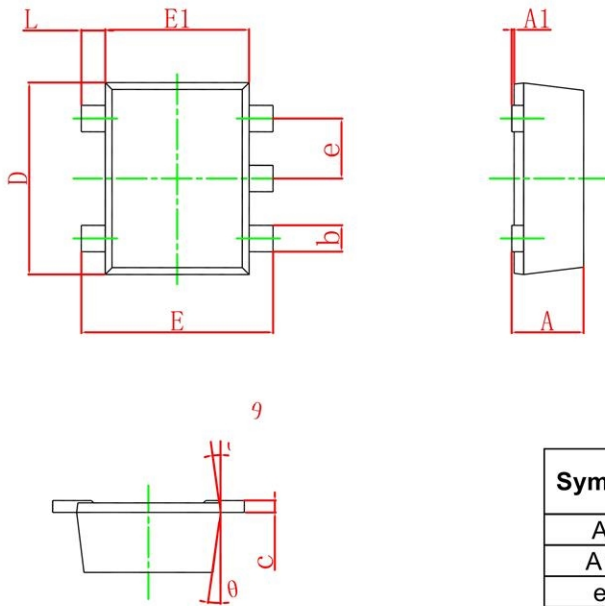


Fig3. Power Derating Curve

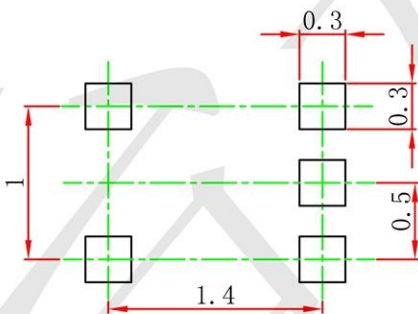


SOT-5X3 Package Outline Drawing



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.525 | 0.600 | 0.021 | 0.024 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| e | 0.450 | 0.550 | 0.018 | 0.022 |
| c | 0.090 | 0.160 | 0.004 | 0.006 |
| D | 1.500 | 1.700 | 0.059 | 0.067 |
| b | 0.170 | 0.270 | 0.007 | 0.011 |
| E1 | 1.100 | 1.300 | 0.043 | 0.051 |
| E | 1.500 | 1.700 | 0.059 | 0.067 |
| L | 0.100 | 0.300 | 0.004 | 0.012 |
| θ | 7° REF. | | 7° REF. | |

Suggested Land Pattern



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.