

### Features

- Low operating voltage: 5V
- Ultra low capacitance: 1.5pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low clamping voltage
- -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):30A(8/20 $\mu\text{s}$ )
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

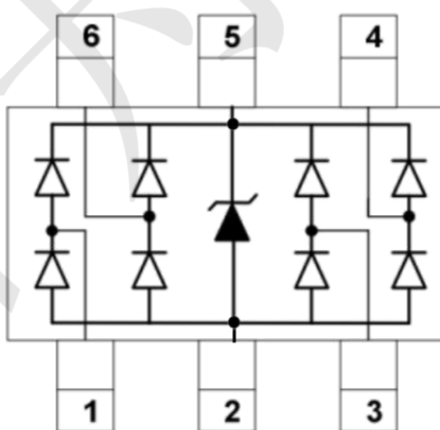
### Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

### Applications

- T1/E1 Line Cards
- T3/E3 and DS3 Interfaces
- Low Voltage Interfaces
- ISDN Interfaces

### Dimensions and Pin Configuration



Circuit and Pin Schematic

### Absolute Maximum Ratings(T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                                                      | Symbol | Value       | Unit |
|----------------------------------------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 600         | W    |
| Peak Pulse Current (8/20μs)Any I/O pin to ground               | Ipp    | 30          | A    |
| Peak Pulse Current (8/20μs)VCC pin to ground                   | Ipp    | 60          | 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    | Any I/O pin to ground                            |
| Breakdown Voltage       | VBR       | 6   | --  | --  | V    | IT= 1mA,Any I/O pin to ground                    |
| Reverse Leakage Current | IR        | --  | 1   | --  | uA   | VRWM=5V,Any I/O pin to ground                    |
| Clamping Voltage        | VC        | --  | --  | 11  | V    | Ipp=1A(8x 20us pulse),<br>Any I/O pin to ground  |
| Clamping Voltage        | VC        | --  | --  | 15  | V    | Ipp=4A(8x 20us pulse),<br>Any I/O pin to ground  |
| Clamping Voltage        | VC        | --  | 18  | --  | V    | Ipp=30A(8x 20us pulse),<br>Any I/O pin to ground |
| Clamping Voltage        | VC        | --  | 20  | --  | V    | Ipp=60A(8x 20us pulse),<br>VCC pin to ground     |
| Junction Capacitance    | Cvo-GND   | --  | 2.5 | --  | pF   | VR=0V,f=1MHz,<br>Any I/O to GND                  |
|                         | Ci/o- I/O | --  | 1.5 | --  | pF   | VR=0V,f=1MHz,<br>between I/O pins                |

### Characteristic Curves

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

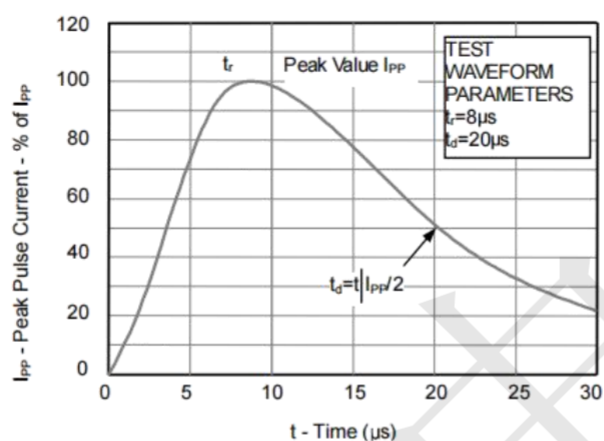


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

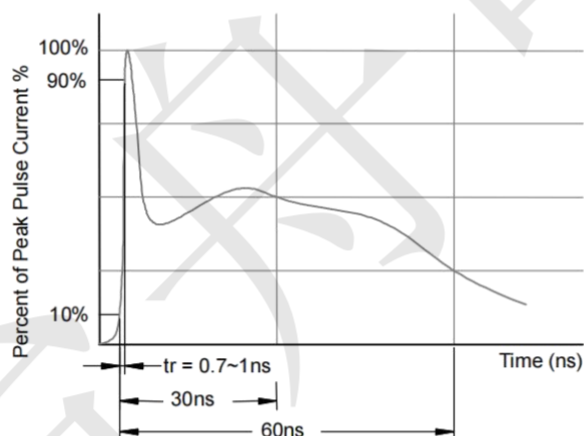
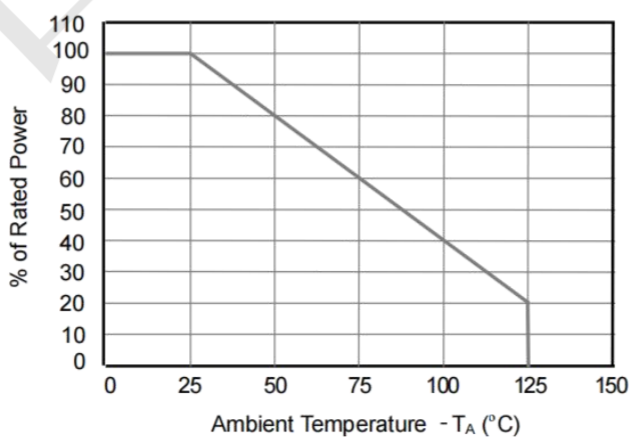
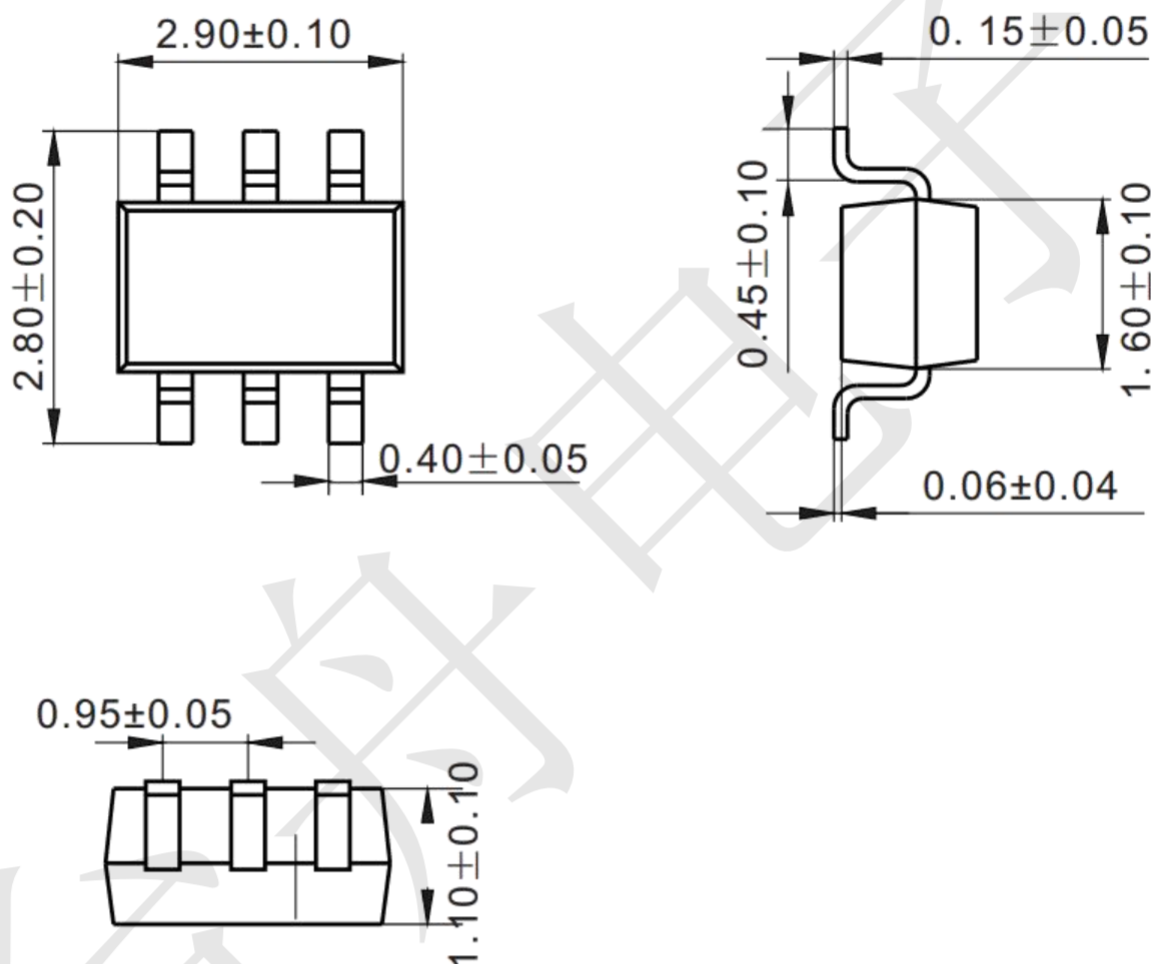


Fig3. Power Derating Curve



### Package information (Unit: mm)

SOT23-6



### Mounting Pad Layout (unit: mm)

