

Features

- Ultra low leakage: nA level
- Ultra low operating voltage: 3.6V
- Ultra 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) 80A (5/50ns)
 - IEC61000-4-5 (Lightning) 10A (8/20 μs)
- RoHS Compliant
- ESD304DBVR Pin to Pin fully compatible

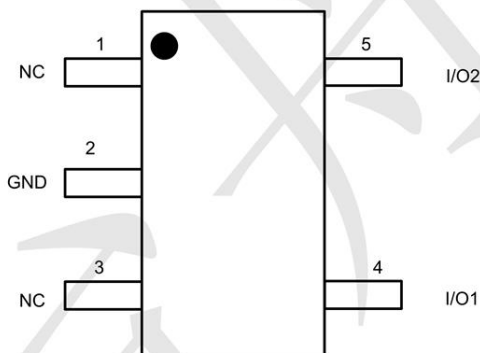
Mechanical Characteristics

- Package: SOT23-5
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram Below

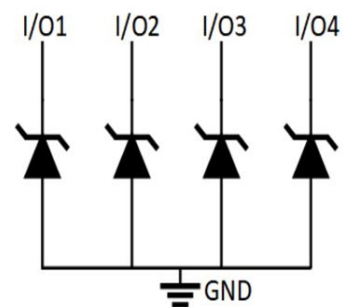
Applications

- Ethernet Switches
- Access Points
- Gateways
- Printers
- DVR and NVR

Dimensions and Pin Configuration



Marking: 1R3B



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 | 10 | 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 | | | 3.6 | V | |
| Breakdown Voltage | VBR | 4.5 | | | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.1 | uA | VRWM = 3.6V |
| Forward Voltage | Vf | | 0.8 | 1.2 | V | Io = 1mA IO to GND |
| Clamping Voltage | VC | | 5.8 | 9.0 | V | Ipp=1A(8x 20us pulse) |
| Clamping Voltage | VC | | 7 | 10 | V | Ipp=10A(8x 20us pulse) |
| Junction Capacitance | CJ | | 1.2 | 1.5 | pF | VR = 0V, f = 1MHz IO to GND |
| Junction Capacitance | CJ | | 0.6 | 0.7 | pF | VR = 0V, f = 1MHz IO to IO |

Typical characteristics ($T_A=25\text{ C}$, unless otherwise noted)

Fig1. 8/20 μ s Pulse Waveform

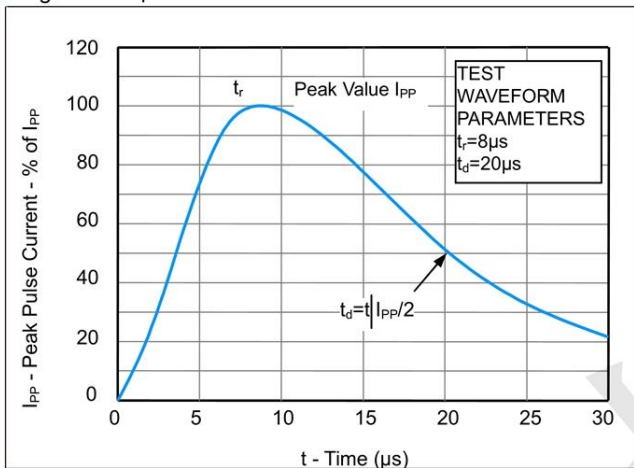


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

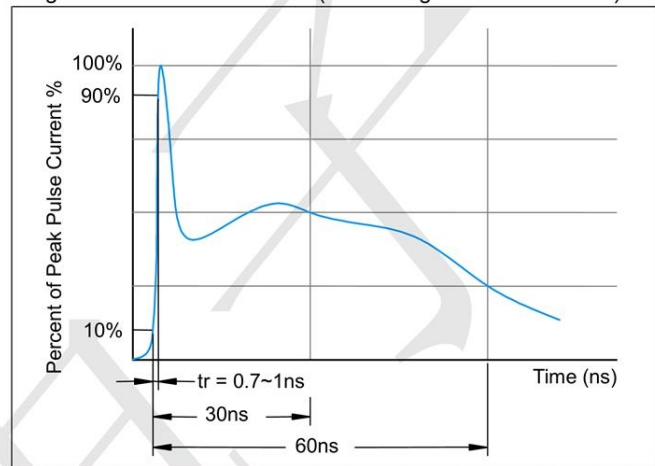
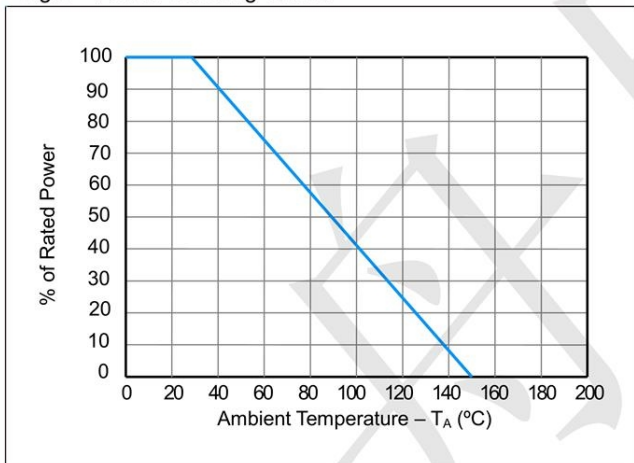
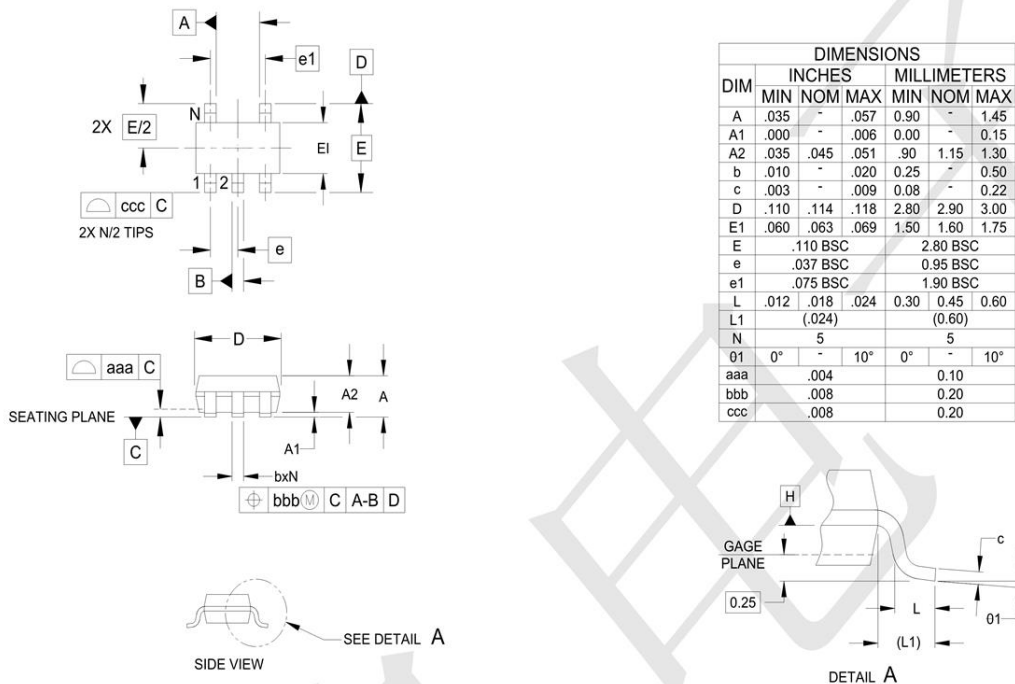


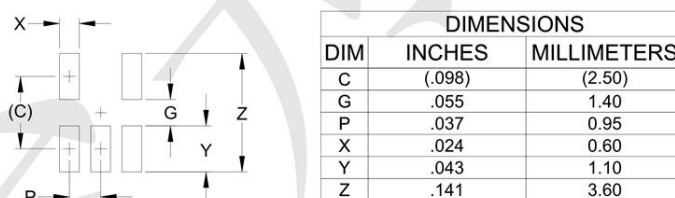
Fig3. Power Derating Curve



SOT23-5 Package Outline Drawing



Suggested Land Pattern



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