

Features

- ◆ Ultra low capacitance: 1.0pF MAX (I/O to GND)
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 5.5V(Max)
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 15\text{kV}$
Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) : 4A(8/20 μs)

Mechanical Characteristics

- ◆ Package: SOT143
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J-STD-020

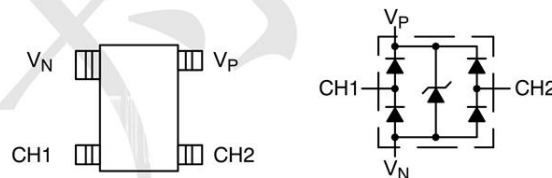
Applications

- ◆ 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...)

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|--------------|--------------|-----------|
| CM1293A-02SR | 3000 | 7" |

Dimensions and Pin Configuration



Marking: D636 □

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

| Characteristic | Symbol | Value | Unit | Conditions |
|------------------------------------|--------------------------|-------|------|------------------------|
| Peak Pulse Current | I _{PP} | 4 | A | 8/20μs (Note 7) |
| ESD Protection – Contact Discharge | V _{ESD_Contact} | ±15 | kV | Standard IEC 61000-4-2 |
| ESD Protection – Air Discharge | V _{ESD_Air} | ±15 | kV | Standard IEC 61000-4-2 |

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Power Dissipation (Note 5) | P _D | 300 | mW |
| Thermal Resistance, Junction to Ambient T _A = +25°C | R _{θJA} | 417 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

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

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|--|------------------|-----|-----|-----|------|---|
| Reverse Standoff Voltage | V _{RWM} | — | 3.3 | 5.5 | V | — |
| Channel Leakage Current (Note 6) | I _R | — | 1 | 100 | nA | V _R = 5.5V, Any I/O to GND |
| Reverse Breakdown Voltage | V _{BR} | 6.0 | — | 9.0 | V | I _R = 1mA, from pin 5 to pin 2 |
| Clamping Voltage, Positive Transients (Note 7) | V _C | — | 10 | 12 | V | I _{PP} = 1A, t _P = 8/20μs |
| | | | 16 | | | I _{PP} = 4A, t _P = 8/20μs |
| Channel Input Capacitance (Note 8) | C _T | — | — | 1.0 | pF | V _R = 0V, f = 1MHz, Any I/O to GND |
| Dynamic Resistance | R _{DYN} | — | 0.9 | — | Ω | I _{PP} = 1A, t _P = 8/20μs |

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

Fig1. 8/20 μs Pulse Waveform

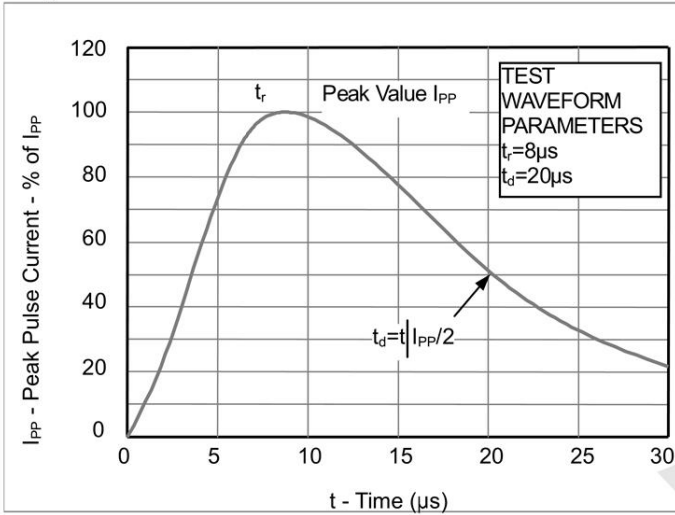


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

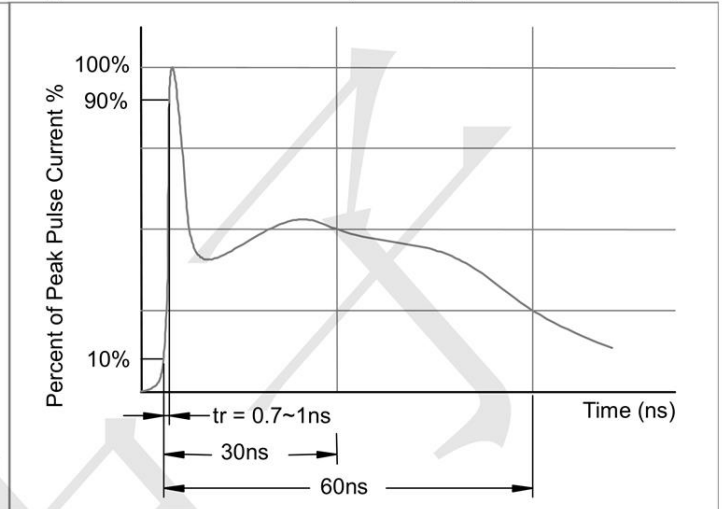
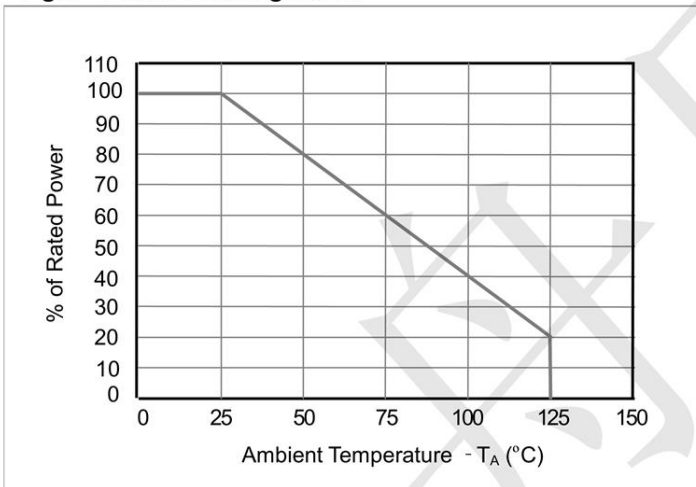
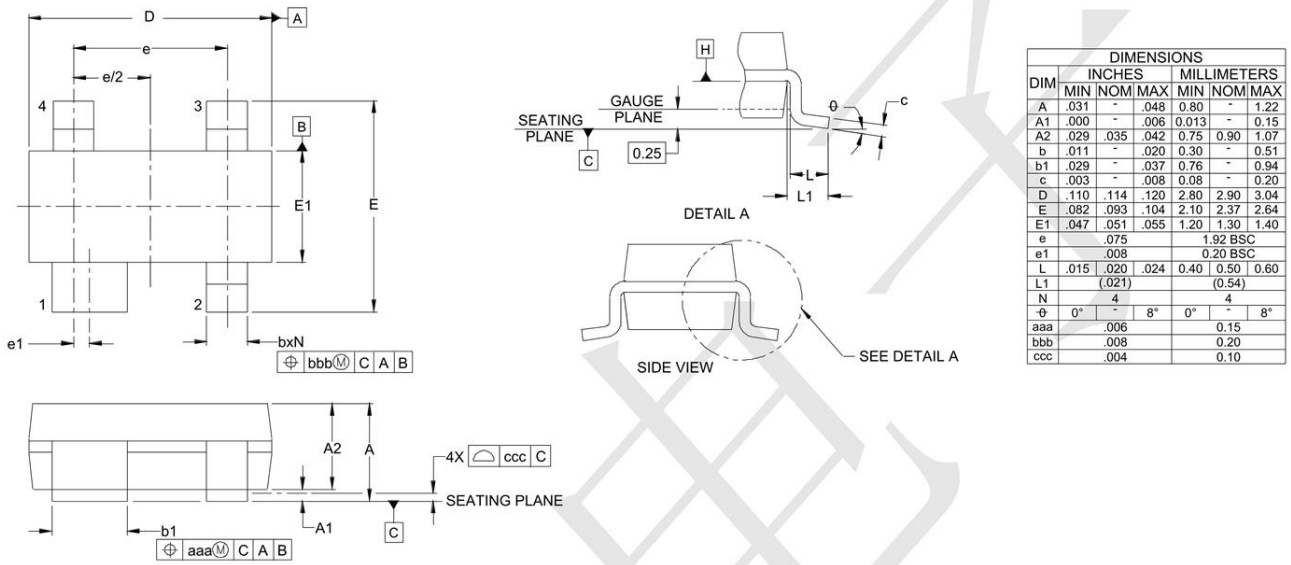


Fig3. Power Derating Curve



Outline Drawing - SOT-143



Land Pattern -SOT-143

