

Features

- Ultra low leakage: nA level
- Operating voltage: $\pm 13V$
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30kV$
 - Contact discharge: $\pm 30kV$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 6A (8/20 μs)
- RoHS Compliant

Mechanical Characteristics

- Package: SOT323
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0



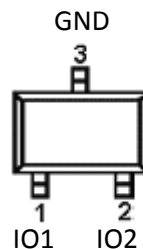
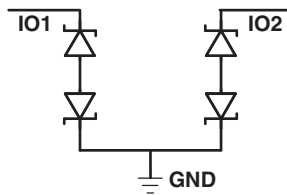
Applications

- Cell Phones
- Audio Interface Connections
- Consumer Electronics (DVR, Set-Top Box, TV)
- Industrial Interfaces (RS-232, RS-485, RS-422, LVDS)

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-----------------|--------------|-----------|
| TPE2E007DCKR-TP | 3000 | 7" |

Dimensions and Pin Configuration



SOT323

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 65 | W |
| Peak Pulse Current (8/20μs) | Ipp | 6 | 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 | | | ±13 | V | |
| Breakdown Voltage | VBR | 14 | | | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.05 | uA | VRWM =13V |
| Clamping Voltage | VC | | | 7 | V | I _{PP} = 1A (8 x 20μs pulse) |
| Clamping Voltage | VC | | | 10 | V | I _{PP} = 6A (8 x 20μs pulse) |
| Junction Capacitance | CJ | | 9 | | pF | VR = 0V, f = 1MHz |

Fig1. 8/20 μ s Pulse Waveform

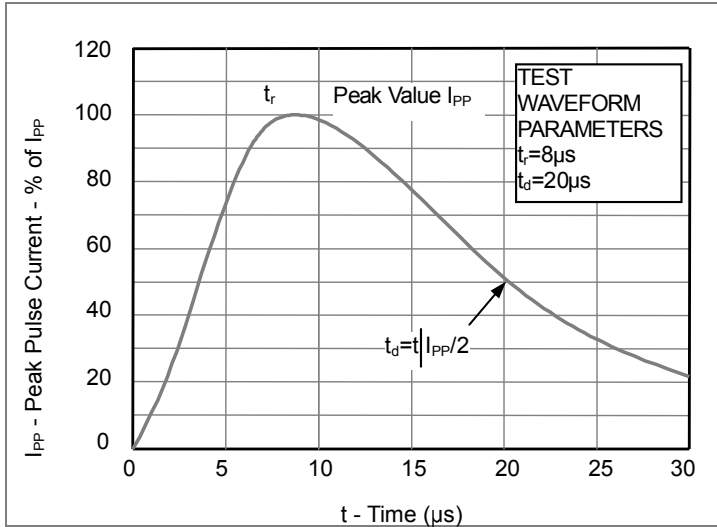


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

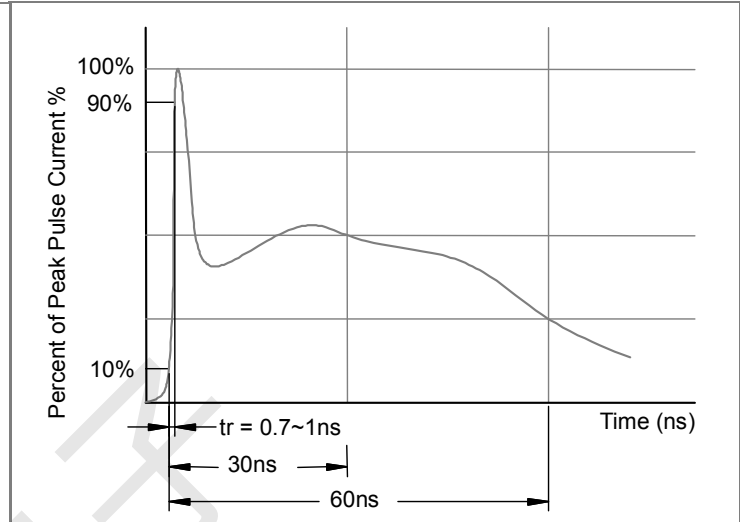
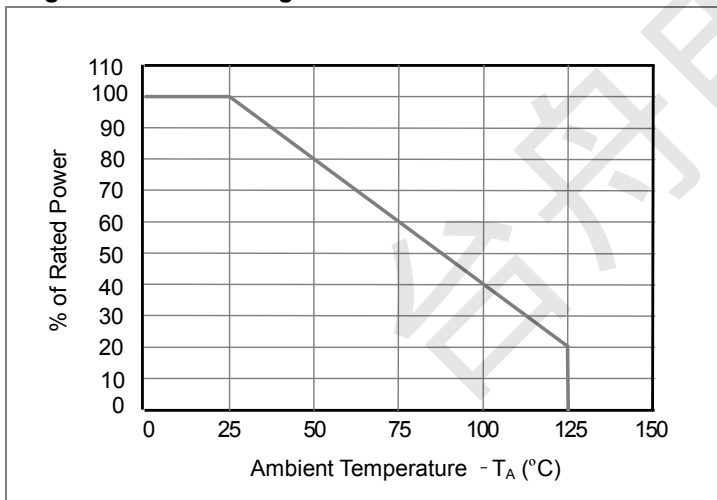


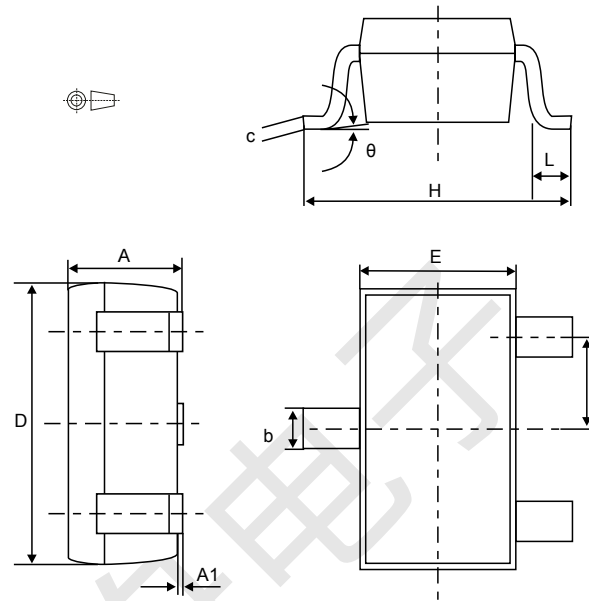
Fig3. Power Derating Curve



Outline Drawing - SOT323(SC70-3)

www.sot23.com.tw

SOT323-3L package outline



| Ref. | Dimensions | | | | | |
|------|-------------|------|------|-----------------------|-------|-------|
| | Millimeters | | | Inches ⁽¹⁾ | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 0.80 | | 1.10 | 0.031 | | 0.044 |
| A1 | 0.00 | | 0.10 | 0.000 | | 0.004 |
| b | 0.25 | | 0.40 | 0.009 | | 0.016 |
| c | 0.10 | | 0.26 | 0.003 | | 0.011 |
| D | 1.80 | 2.00 | 2.20 | 0.070 | 0.079 | 0.087 |
| E | 1.15 | 1.25 | 1.35 | 0.045 | 0.049 | 0.054 |
| e | 0.60 | 0.65 | 0.70 | 0.023 | 0.026 | 0.028 |
| H | 1.80 | 2.10 | 2.40 | 0.070 | 0.083 | 0.095 |
| L | 0.10 | 0.20 | 0.30 | 0.004 | 0.008 | 0.012 |
| θ | | 0 | 30° | | 0 | 30° |