

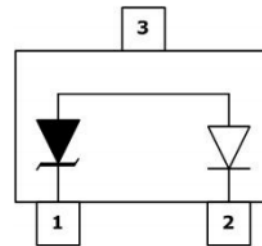
### Features

- Ultra low leakage: nA level
- Operating voltage: 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)
  - IEC61000-4-5 (Lightning) 12A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Dimensions SOT-23



### Pin Configuration



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000pcs
- Reel Size: 7inch

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

| Parameter                              | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 500         | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 15$    | Kv   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 8$     |      |
| Operating Temperature Range            | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

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

| Part Number | Device Marking | V <sub>RWM</sub> (V) | V <sub>BR</sub> (V) | I <sub>T</sub> (mA) | V <sub>C</sub> @1A | V <sub>C</sub> |      | I <sub>R</sub> μA (Max) | C (Pf) (Typ.) |
|-------------|----------------|----------------------|---------------------|---------------------|--------------------|----------------|------|-------------------------|---------------|
|             |                |                      |                     |                     |                    | (Max)          | (@A) |                         |               |
| LC05DT3     | TL5            | 5                    | 6                   | 1                   | 9.8                | 11             | 5    | 5                       | 5             |

## Characteristic Curves

Fig1. 8/20μs Pulse Waveform



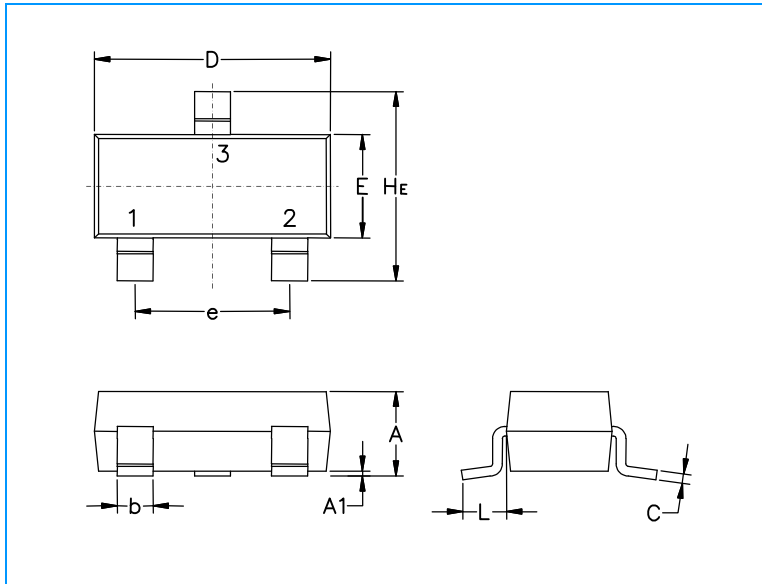
Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)



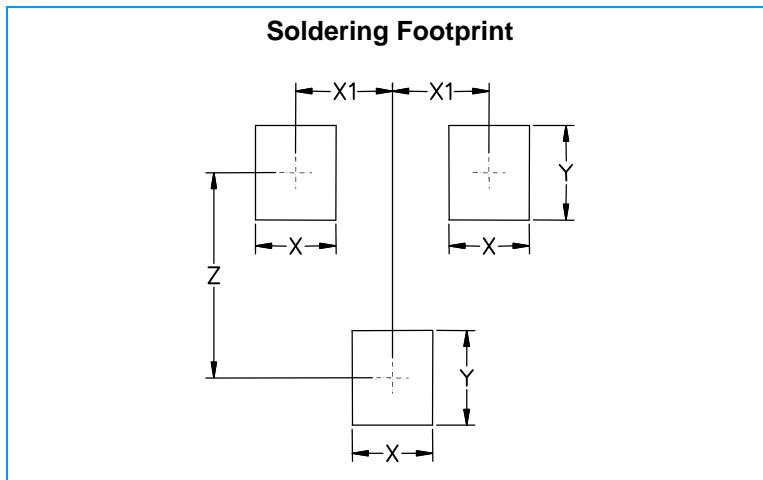
Fig3. Power Derating Curve



## SOT-23 Package Outline & Dimensions



| Symbol | Millimeters |      |      | Inches |       |       |
|--------|-------------|------|------|--------|-------|-------|
|        | Min.        | Nom. | Max. | Min.   | Nom.  | Max.  |
| A      | 0.89        | 1.00 | 1.11 | 0.035  | 0.040 | 0.044 |
| A1     | 0.01        | 0.06 | 0.10 | 0.001  | 0.002 | 0.004 |
| b      | 0.37        | 0.44 | 0.50 | 0.15   | 0.18  | 0.020 |
| c      | 0.09        | 0.13 | 0.18 | 0.003  | 0.005 | 0.007 |
| D      | 2.80        | 2.90 | 3.04 | 0.110  | 0.114 | 0.120 |
| E      | 1.20        | 1.30 | 1.40 | 0.047  | 0.051 | 0.055 |
| e      | 1.78        | 1.90 | 2.04 | 0.070  | 0.075 | 0.081 |
| L      | 0.35        | 0.54 | 0.69 | 0.014  | 0.021 | 0.029 |
| HE     | 2.10        | 2.40 | 2.64 | 0.083  | 0.094 | 0.104 |



| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| X      | 0.80        | 0.031  |
| X1     | 0.95        | 0.037  |
| Y      | 0.90        | 0.035  |
| Z      | 2.00        | 0.079  |