

Features

- ◆ 300W peak pulse power(8/20 μ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 24V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ± 30 kV
 - Contact discharge: ± 30 kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 7A (8/20 μ s)
- ◆ RoHS Compliant

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|--------------|-----------|
| ESDA25L | 3000 | 7" |

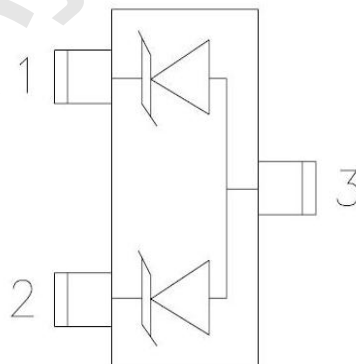
Mechanical Characteristics

- ◆ Package: SOT-23
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020

Applications

- ◆ Cellular Handsets and Accessories
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Set Top Box
- ◆ Industrial Controls

Dimensions and Pin Configuration



Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 300 | W |
| Peak Pulse Current (8/20μs) | I _{PP} | 7 | A |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ± 30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ± 30 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|------------------|------|-----|-----|------|---|
| Reverse Working Voltage | V _{RWM} | | | 24 | V | |
| Breakdown Voltage | V _{BR} | 26.7 | | | V | I _T = 1mA |
| Reverse Leakage Current | I _R | | | 0.1 | μA | V _{RWM} = 24V |
| Forward Voltage | V _F | | 0.8 | 1.2 | V | I _F = 10mA |
| Clamping Voltage | V _C | | 33 | | V | I _{PP} = 1A (8 x 20μs pulse) |
| Clamping Voltage | V _C | | | 45 | V | I _{PP} = 7A (8 x 20μs pulse) |
| Junction Capacitance | C _J | | | 70 | pF | V _R =0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3 |
| Junction Capacitance | C _J | | 20 | | pF | V _R =0, f=1MHz, Pin 1 to Pin 2 |

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

Fig1. 8/20 μs Pulse Waveform

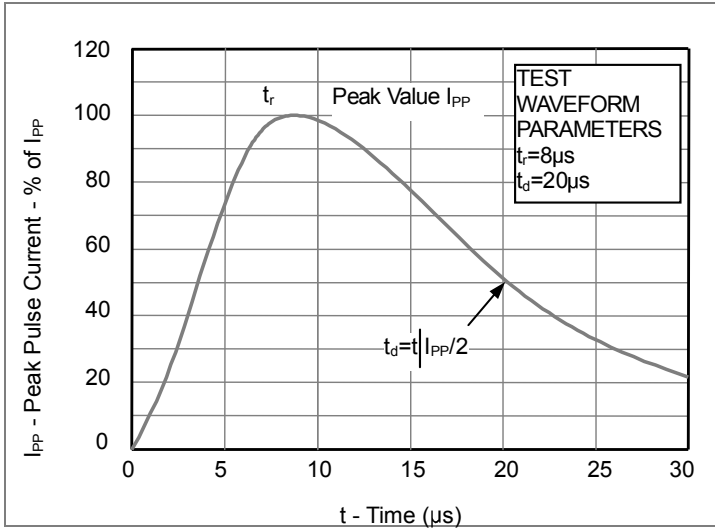


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

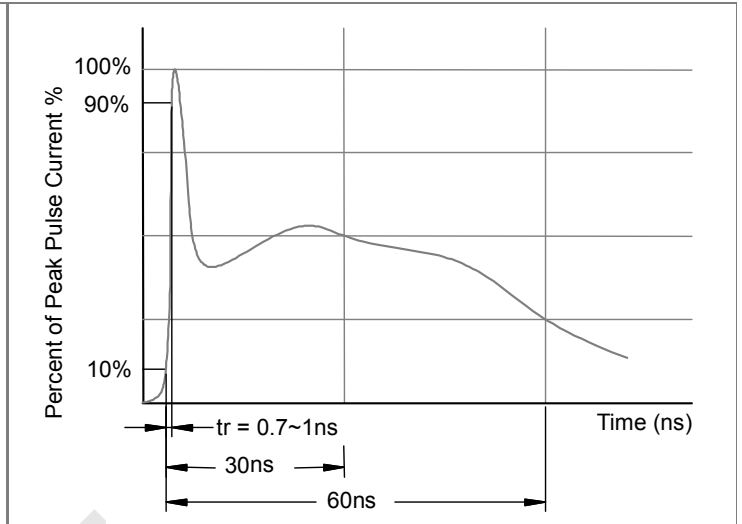
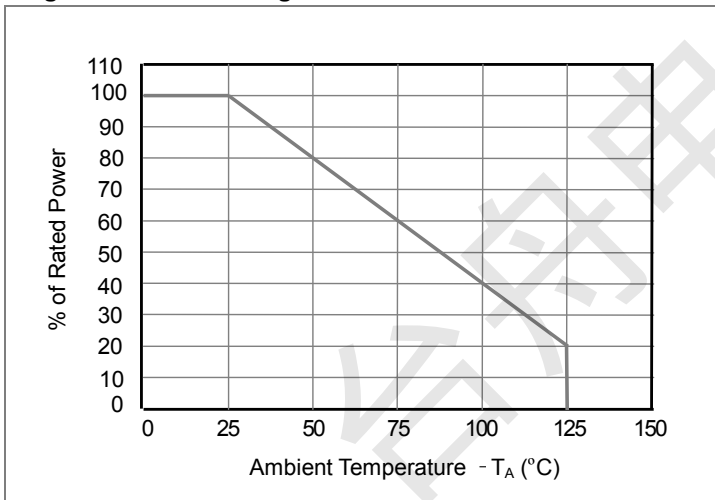
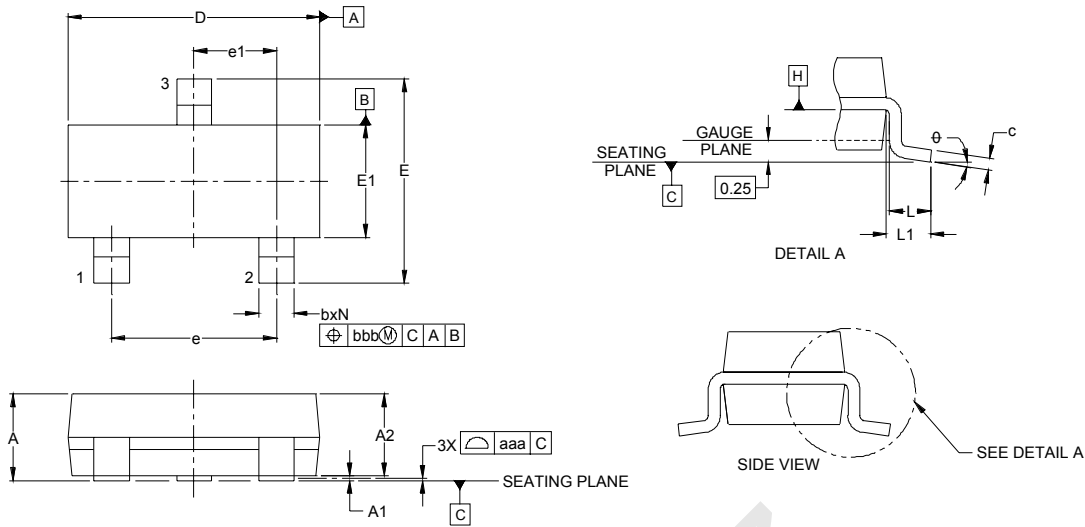


Fig3. Power Derating Curve

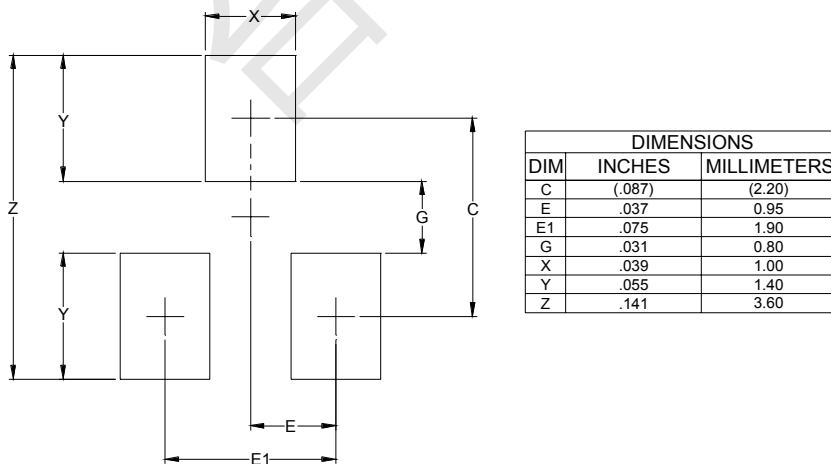


Outline Drawing - SOT23



| DIM | INCHES | | MILLIMETERS | | | |
|----------|--------|------|-------------|------|------|------|
| | MIN | NOM | MIN | NOM | | |
| A | .035 | - | .044 | 0.89 | - | 1.12 |
| A1 | .000 | - | .004 | 0.01 | - | 0.10 |
| A2 | .035 | .037 | .040 | 0.88 | 0.95 | 1.02 |
| b | .012 | - | .020 | 0.30 | - | 0.51 |
| c | .003 | - | .007 | 0.08 | - | 0.18 |
| D | .110 | .114 | .120 | 2.80 | 2.90 | 3.04 |
| E | .082 | .093 | .104 | 2.10 | 2.37 | 2.64 |
| E1 | .047 | .051 | .055 | 1.20 | 1.30 | 1.40 |
| e | .075 | - | 1.90 | BSC | - | - |
| e1 | .037 | - | 0.95 | BSC | - | - |
| L | .015 | .020 | .024 | 0.40 | 0.50 | 0.60 |
| L1 | .022 | - | (0.55) | - | - | - |
| N | 3 | - | 3 | - | - | - |
| θ | 0° | - | 8° | 0° | - | 8° |
| aaa | .004 | - | 0.10 | - | - | - |
| bbb | .008 | - | 0.20 | - | - | - |

Land Pattern - SOT23



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