

## Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- 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) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 4A (8/20 $\mu\text{s}$ )
- RoHS Compliant

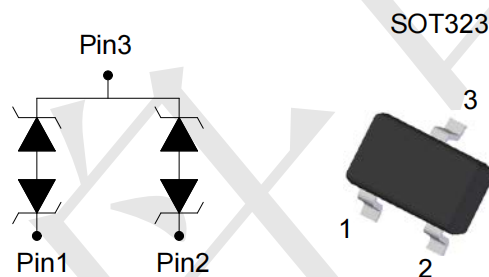
## Mechanical Characteristics

- Package: SOT323
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Shipping Qty : 3000pcs/7Inch Tape & Reel

## Applications

- CAN Bus Protection
- Automotive Appllcatrons

## Dimensions and Pin Configuration



**Marking:A9t**

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

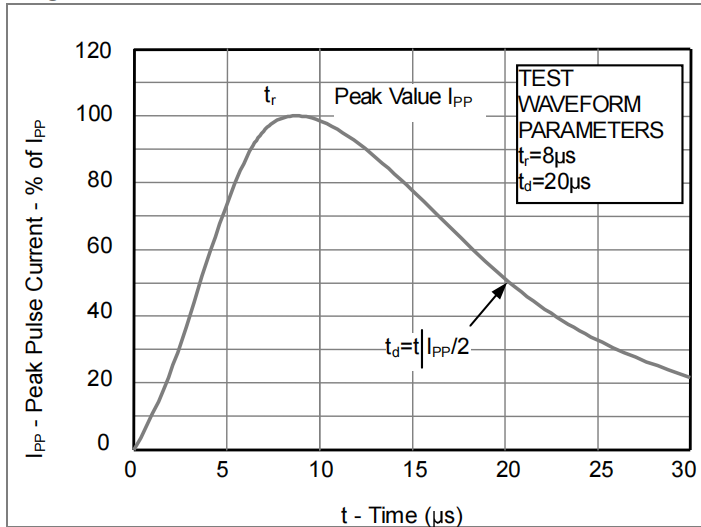
| Parameter                                                      | Symbol | Value       | Unit |
|----------------------------------------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 150         | W    |
| Peak Pulse Current (8/20μs)                                    | Ipp    | 4           | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ±30<br>±30  | kV   |
| Operating Temperature Range                                    | TJ     | -55 to +125 | °C   |
| Storage Temperature Range                                      | Tstg   | -55 to +150 | °C   |

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

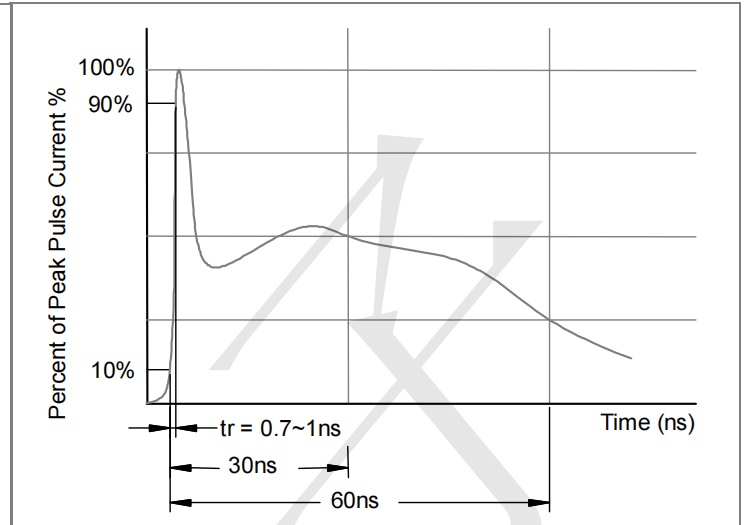
| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition            |
|-------------------------|--------|-----|-----|-----|------|---------------------------|
| Reverse Working Voltage | VRWM   |     |     | 24  | V    |                           |
| Breakdown Voltage       | VBR    | 26  | 28  | 32  | V    | IT = 1mA                  |
| Reverse Leakage Current | IR     |     |     | 0.2 | uA   | VRWM =24V                 |
| Clamping Voltage        | VC     |     | 30  |     | V    | Ipp = 1A (8 x 20Us pulse) |
| Clamping Voltage        | VC     |     | 36  | 40  | pF   | Ipp = 4A (8 x 20Us pulse) |
| Junction Capacitance    | CJ     |     | 10  |     | pF   | VR = 0V, f = 1MHz         |

## Characteristic Curves

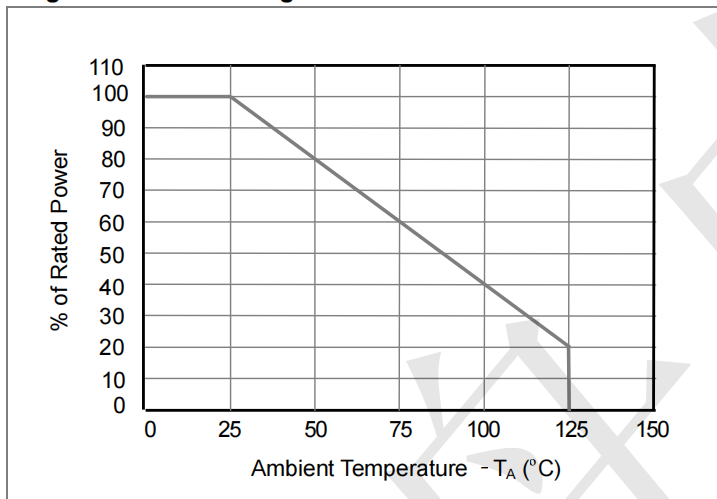
**Fig1. 8/20 $\mu$ s Pulse Waveform**



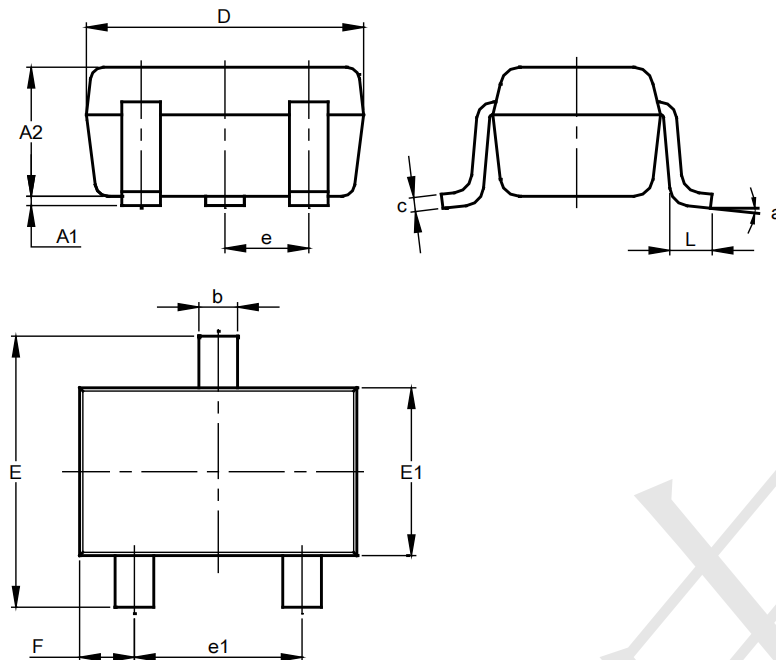
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

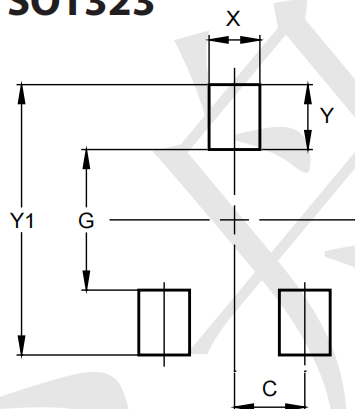


## Outline Drawing - SOT323(SC70-3)



| SOT323               |           |       |       |
|----------------------|-----------|-------|-------|
| Dim                  | Min       | Max   | Typ   |
| A1                   | 0.00      | 0.10  | 0.05  |
| A2                   | 0.90      | 1.00  | 0.95  |
| b                    | 0.25      | 0.40  | 0.30  |
| c                    | 0.10      | 0.18  | 0.11  |
| D                    | 1.80      | 2.20  | 2.15  |
| E                    | 2.00      | 2.20  | 2.10  |
| E1                   | 1.15      | 1.35  | 1.30  |
| e                    | 0.650 BSC |       |       |
| e1                   | 1.20      | 1.40  | 1.30  |
| F                    | 0.375     | 0.475 | 0.425 |
| L                    | 0.25      | 0.40  | 0.30  |
| a                    | 0°        | 8°    | --    |
| All Dimensions in mm |           |       |       |

## Land Pattern - SOT323



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 0.650         |
| G          | 1.300         |
| X          | 0.470         |
| Y          | 0.600         |
| Y1         | 2.500         |