# TPJSD36W-AU

## 1-LineUnI-directional TVS Diode

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## Features

* 350W peak pulse power (8/20μs)
* Protects one data or power line
* Ultra low leakage：nA level
* Operating voltage：36V
* Ultra low clamping voltage
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  –IEC61000-4-5 (Lightning) 5A (8/20μs)
  – IEC61000-4-4 (EFT) 40A (5/50ns)
* RoHS Compliant

## Mechanical Characteristics

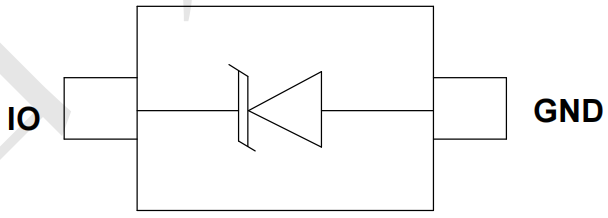
* Package: SOD-323
* Lead Finish: Matte Tin
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Terminal Connections: See Diagram Below
* Shipping Qty :3000 /7Inch Tape & Reel

## Applications

* Cellular Handsets and Accessories
* Personal Digital Assistants
* Notebooks and Handhelds
* Portable Instrumentation
* Peripherals
* Pagers Peripherals
* Desktop and Servers

### Dimensions and Pin Configuration

**SOD-323**



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

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (8/20μs) | Ppk | 350 | W |
| Peak Pulse Current (8/20μs) | $I_{PP}$ | 5 | A |
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | $V_{ESD}$ | ±30<br>±30 | kV |
| Operating Temperature Range | $T_J$ | −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 | $V_{RWM}$ | | | 36 | V | |
| Breakdown Voltage | $V_{BR}$ | 40 | | | V | $I_T$ = 1mA |
| Reverse Leakage Current | $I_R$ | | | 0.5 | μA | $V_{RWM}$ = 36V |
| Forward Voltage | $V_F$ | | 0.8 | 1.2 | V | $I_F$=10mA |
| Clamping Voltage | $V_C$ | | | 9 | V | $I_{PP}$ = 1A (8 x 20μs pulse) |
| Clamping Voltage | $V_C$ | | 50 | 60 | V | $I_{PP}$ = 5A (8 x 20μs pulse) |
| Junction Capacitance | $C_J$ | | | 50 | pF | VR = 0V, f = 1MHz |

## Typical Performance Characteristics ($T_A$=25℃ unless otherwise Specified)

**Fig1. 8/20μs Pulse Waveform**

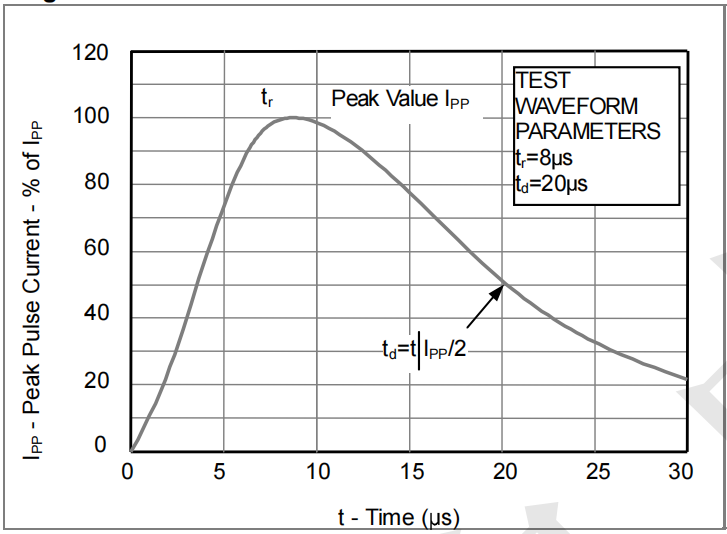



**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**

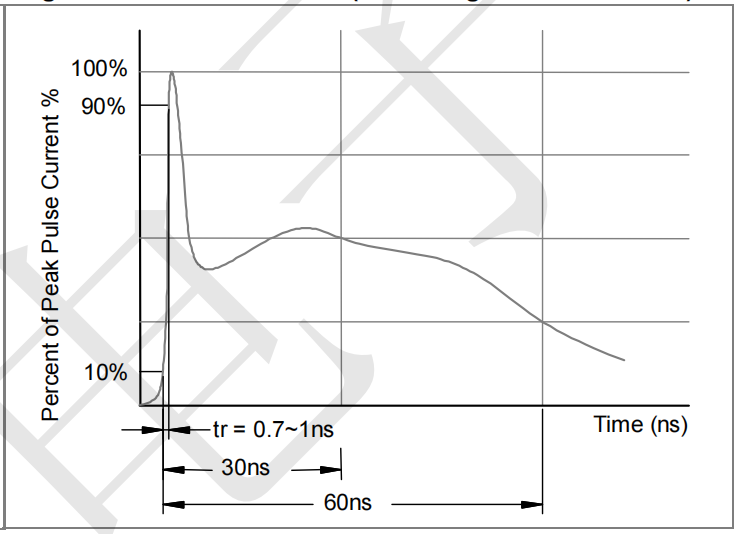
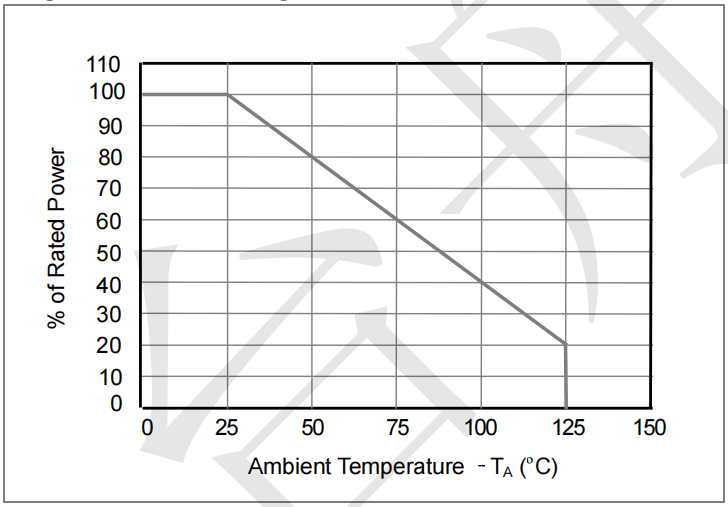
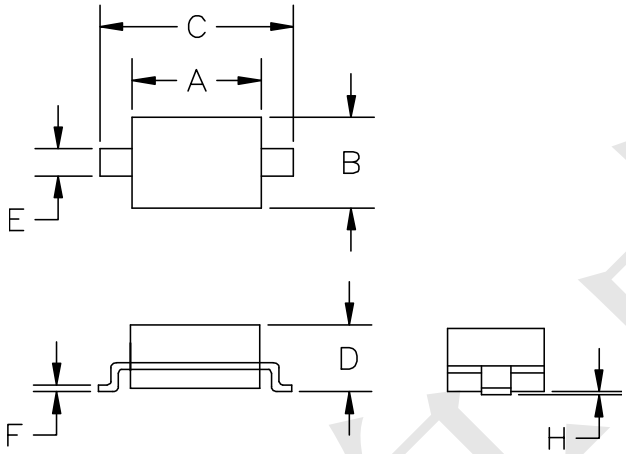



**Fig3. Power Derating Curve**

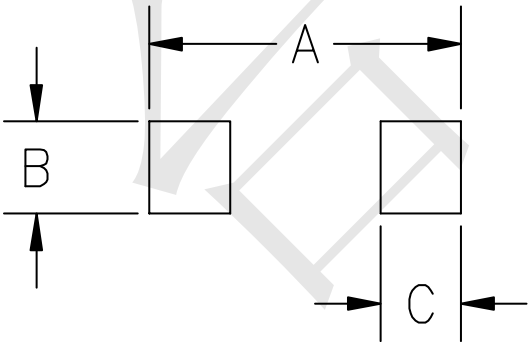


## Outline Drawing - SOD-323




| SYM | DIMENSIONS | | | |
|---|---|---|---|---|
| | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 1.50 | 1.80 | 0.060 | 0.071 |
| B | 1.20 | 1.40 | 0.045 | 0.054 |
| C | 2.30 | 2.70 | 0.090 | 0.107 |
| D | - | 1.10 | - | 0.043 |
| E | 0.30 | 0.40 | 0.012 | 0.016 |
| F | 0.10 | 0.25 | 0.004 | 0.010 |
| H | - | 0.10 | - | 0.004 |

## Land Pattern - SOD-323




| SYM | DIMENSIONS | |
|---|---|---|
| | MILLIMETERS | INCHES |
| A | 3.15 | 0.120 |
| B | 0.80 | 0.031 |
| C | 0.80 | 0.031 |