# PESD1IVN24-AX

## 1-Line Bi-directional TVS Diode



## Features

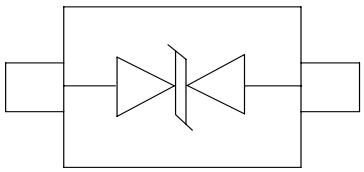
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±20kV
  – IEC61000-4-5 (Lightning) 3A (8/20μs)
- RoHS Compliant



**SOD-323**

## Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



**Circuit diagram**

## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays




AJ= Device code

**Marking (Top View)**

## Ordering Information

| Part Number | Packaging | Reel Size |
|---|---|---|
| PESD1IVN24-AX | 3000/Tape & Reel | 7 inch |

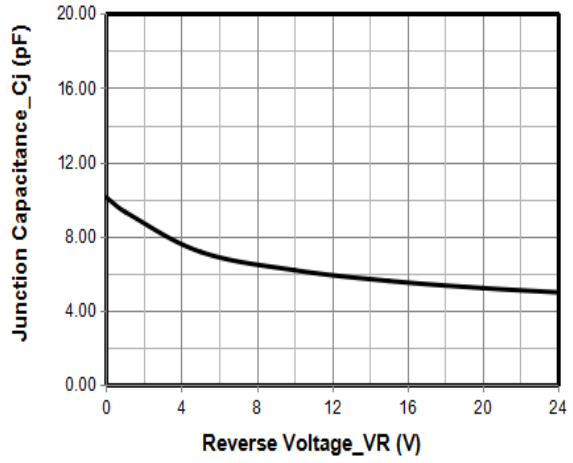
## Absolute Maximum Ratings ($T_A$=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power (8/20μs) | Ppk | 120 | W |
| Peak Pulse Current (8/20μs) | $I_{PP}$ | 3 | A |
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | $V_{ESD}$ | ±25<br>±20 | kV |
| Operating Temperature Range | $T_J$ | −55 to +125 | °C |
| Storage Temperature Range | Tstg | −55 to +150 | °C |

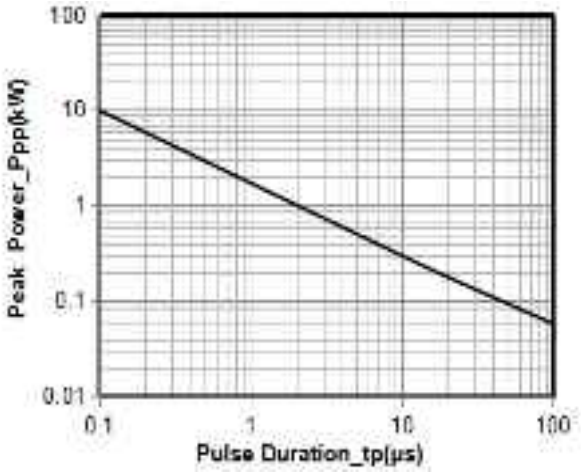
## Electrical Characteristics ($T_A$=25°C unless otherwise specified)

| 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 | $I_R$ | | | 0.2 | μA | $V_{RWM}$ = 24V |
| Clamping Voltage | $V_C$ | | 34 | 35 | V | $I_{PP}$ = 1A |
| Clamping Voltage | $V_C$ | | 40 | 45 | V | $I_{PP}$ = 3A |
| Junction Capacitance | $C_J$ | | 10 | | pF | VR = 0V, f = 1MHz |

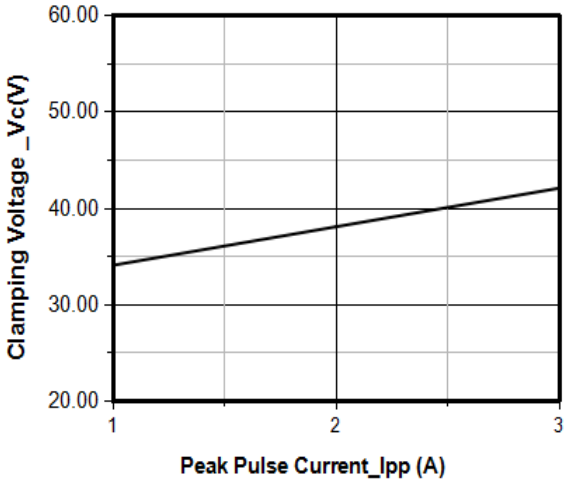
## Typical Performance Characteristics (TA=25°C unless otherwise Specified)



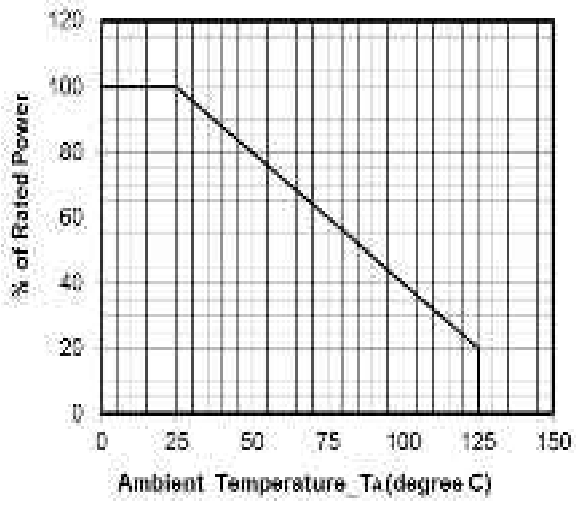

Junction Capacitance vs. Reverse Voltage



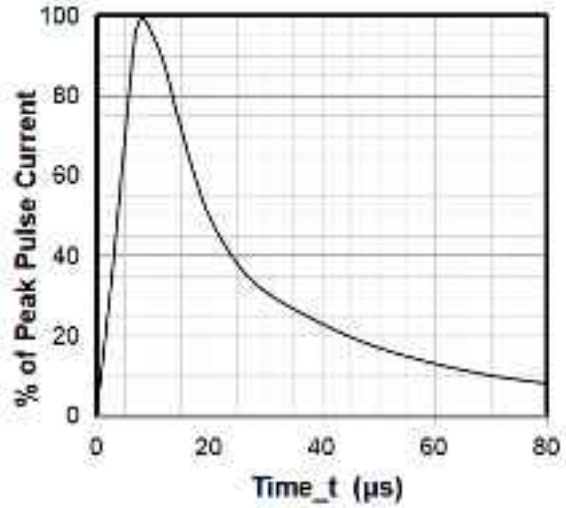

Peak Pulse Power vs. Pulse Time



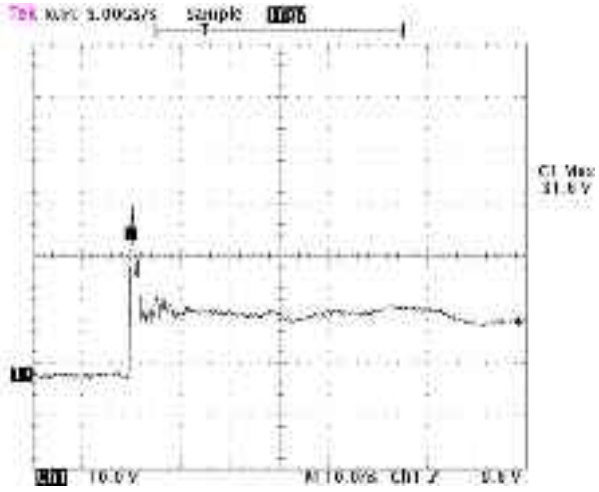

Clamping Voltage vs. Peak Pulse Current




Power Derating Curve




8 X 20μs Pulse Waveform

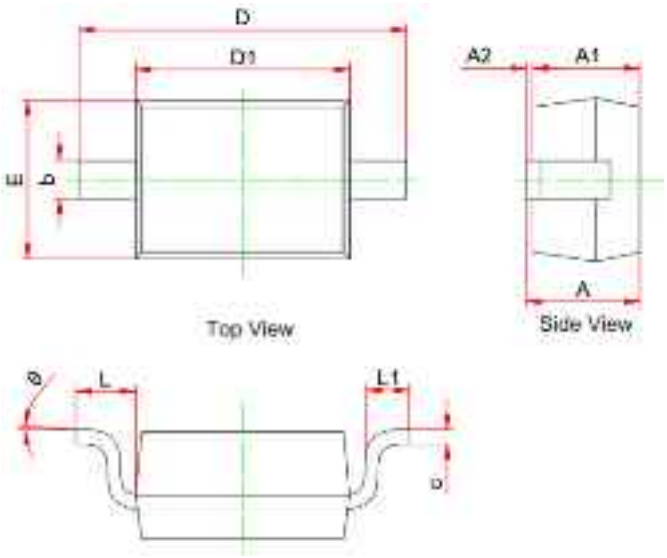


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

## SOD-323 Package Outline Drawing




| | MILLIMETERS | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| A | 0.800 | - - | 1.100 |
| A1 | 0.800 | - - | 0.900 |
| A2 | 0.000 | - - | 0.100 |
| b | 0.250 | - - | 0.400 |
| c | 0.080 | - - | 0.177 |
| D1 | 1.600 | 1.700 | 1.800 |
| D | 2.300 | - - | 2.800 |
| E | 1.150 | - - | 1.400 |
| L | 0.475REF | | |
| L1 | 0.100 | - - | 0.500 |
| Θ | 0° | - - | 8° |

## Suggested Land Pattern




**Unit：mm**