

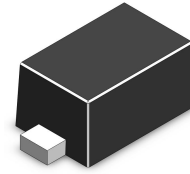
Bi-directional TVS Diode for ESD Protection

SE05V150D-52

Features

- ◆ Small Body Outline Dimensions: 0.063" x 0.032"
(1.6 x 0.8 mm)
- ◆ Protects one bi-directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages: 5V
- ◆ Low leakage current
- ◆ RoHS compliant

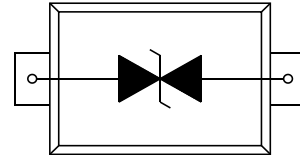
SOD-523



Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ Digital Cameras

Pin Configuration



Protection Solution to Meet

- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 5A (8/20μs)

Mechanical Characteristics

- ◆ SOD-523 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 0.5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 5,000pcs
- ◆ Lead Finish : Lead Free

Absolute Maximum Ratings (T_A=25°C, RH=45%-75%, unless otherwise noted)

| Parameter | Symbol | Value | Units |
|--------------------------------------|------------------|---------------|-------|
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |
| Operating Junction Temperature Range | T _J | -55 to +125 | °C |
| Lead Soldering Temperature | T _L | 260 (10 sec.) | °C |

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Electrical Characteristics ($T_A=25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---------------------------|----------|---|-----|-----|------|---------------|
| Reverse Working Voltage | V_R | --- | --- | --- | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1\text{ mA}$ | 5.3 | --- | --- | V |
| Reverse Leakage Current | I_R | $V_R = 5\text{ V}$ | --- | --- | 100 | μA |
| Clamping Voltage | V_C | $I_{PP} = 5\text{ A}$, $t_p = 8/20\mu\text{s}$ | --- | --- | 12.0 | V |
| Junction Capacitance | C_J | $V_R = 0\text{ V}$, $f = 1\text{ MHz}$ | --- | --- | 15.0 | pF |

Characteristics Curves ($T_A=25\text{ }^\circ\text{C}$, unless otherwise noted)

Fig1. V- I Curve Characteristics

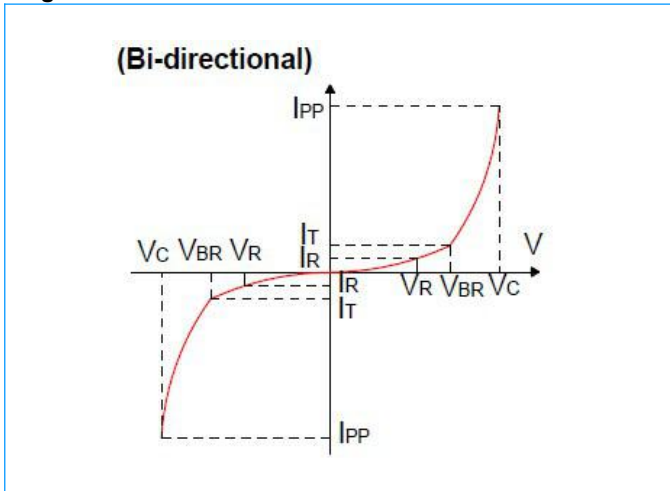


Fig2. Pulse Waveform

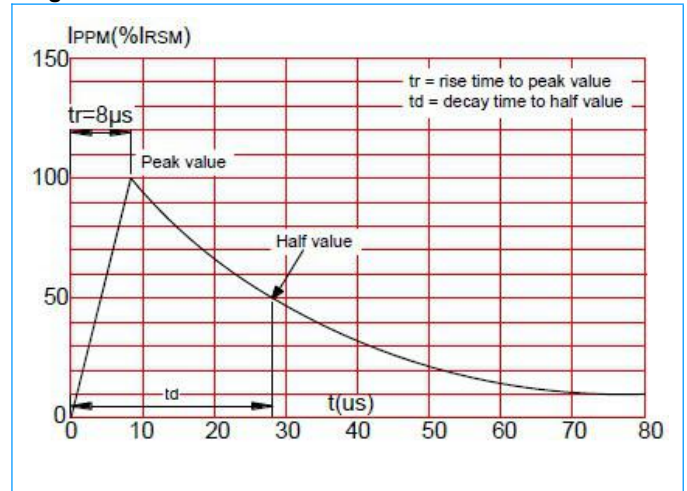


Fig3. Pulse Derating Curve

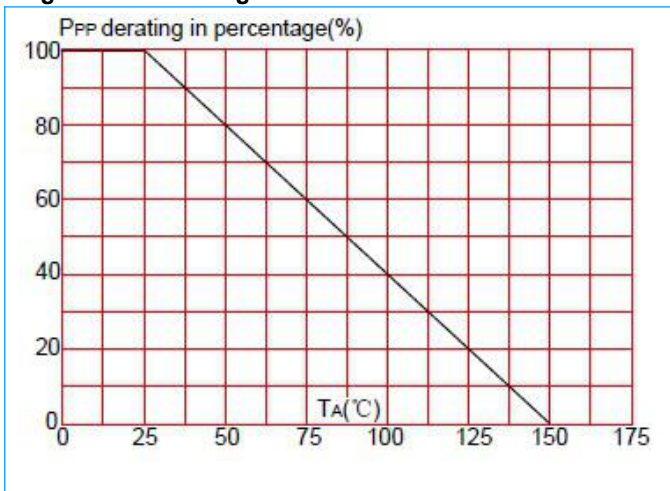
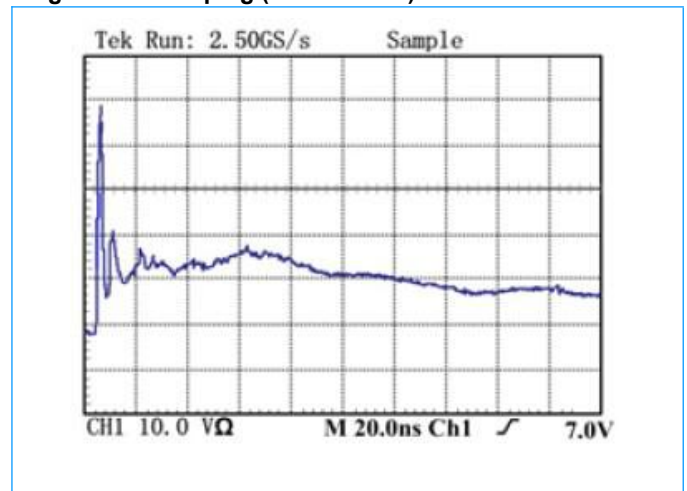


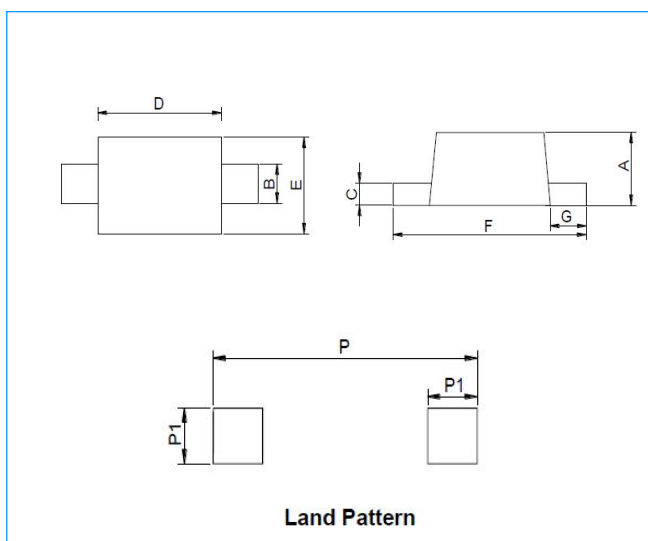
Fig4. ESD Clamping (8kV Contact)



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Package Mechanical Data



| Symbol | Millimeter | | Inches | |
|--------|------------|------|--------|--------|
| | Min | Max | Min | Max |
| A | 0.50 | 0.70 | 0.020 | 0.028 |
| B | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 0.07 | 0.20 | 0.0028 | 0.0079 |
| D | 1.10 | 1.30 | 0.043 | 0.051 |
| E | 0.70 | 0.90 | 0.028 | 0.035 |
| F | 1.50 | 1.70 | 0.059 | 0.067 |
| G | 0.15 | 0.25 | 0.006 | 0.010 |
| P1 | 0.40 | | 0.016 | |
| P | 1.80 | | 0.072 | |