

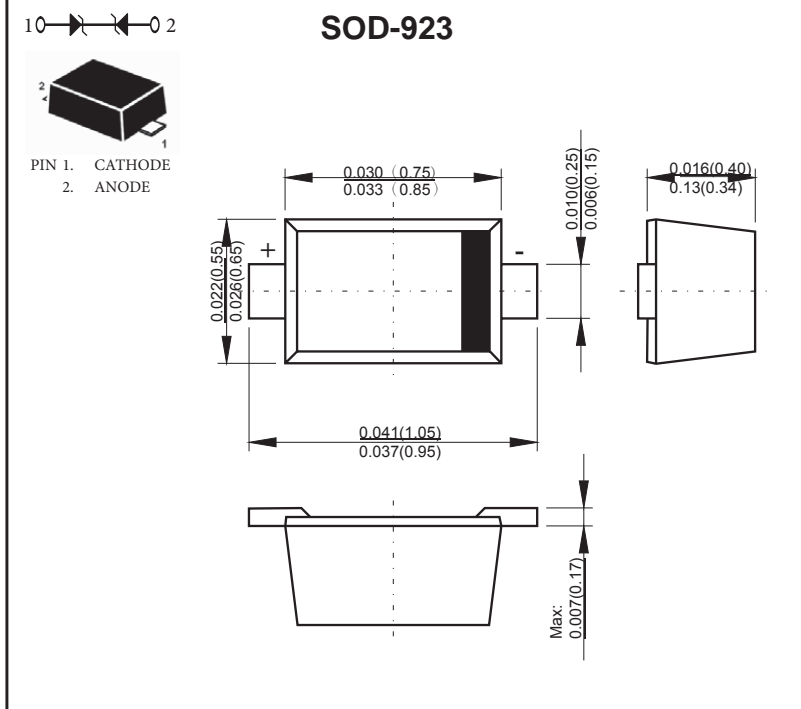
Electrostatic discharge Protection Devices(ESD)

FEATURES

- Reverse working(Stand-off) voltages:5.0V
- Low leakage.
- Response time is typically<1ns.
- ESD Rating of Class 3(>16kV) per Human Body Model.
- IEC61000-4-2Level 4 ESD Protection.

APPLICATIONS

- Designed to protect voltage sensitive components from ESD and transient.
- Case style:SOD-923molded plastic



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Rating | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| IEC 61000 -4-2 (ESD) | Contact | ±18 | kV |
| | Air | ±18 | |
| IEC 61000 -4-4 (EFT) | | 40 | A |
| Total Power Dissipation on FR -5 Board (Note 1) @ T _A = 25 °C Thermal Resistance, Junction-to-Ambient | P _D | 300 | mW |
| | R _{JA} | 400 | °C/W |
| Junction and Storage Temperature Range | T _J , T _{stg} | -55 to +150 | °C |
| Lead Solder Temperature - Maximum (10 Second Duration) | T _L | 260 | °C |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0 x 0.75 x 0.62 in.

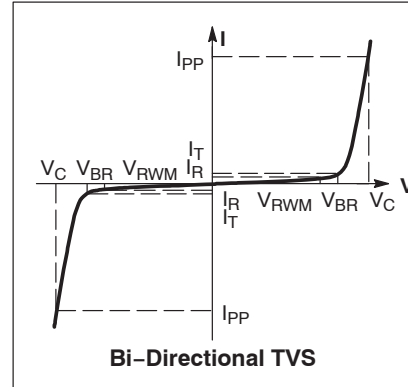
RATINGS AND CHARACTERISTIC CURVES

Electrical Specification ($T_A=25^\circ\text{C}$ unless otherwise specified)

ELECTRICAL CHARACTERISTICS

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

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| C | Capacitance @ $V_R = 0\text{ V}$ and $f = 1.0\text{ MHz}$ |



| Device | Device Marking | V_{RWM} (V) | I_R (μA) @ V_{RWM} | V_{BR} (V) @ I_T (Note 2) | | I_T | C (pF) | V_C | V_C (V) @ $I_{PP} = 1\text{ A}$ |
|---------------|----------------|---------------|-------------------------------------|-------------------------------|-----|-------|--------|---------------------------|---|
| | | Max | Max | Min | Max | mA | Typ | Per IEC61000-4-2 (Note 3) | Max Per $8 \times 20\ \mu\text{s}$ (Note 4) |
| LESD9B5.0ST5G | M | 5.0 | 1.0 | 5.8 | 7.8 | 1.0 | 15 | Figures 1 and 2 See Below | 12.5 |

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .
- For test procedure see Figures 3 and 4
- Surge current waveforms per Figure 5.

IEC 61000-4-2 Spec.

| Level | Test Voltage (kV) | First Peak Current (A) | Current at 30 ns (A) | Current at 60 ns (A) |
|-------|-------------------|------------------------|----------------------|----------------------|
| 1 | 2 | 7.5 | 4 | 2 |
| 2 | 4 | 15 | 8 | 4 |
| 3 | 6 | 22.5 | 12 | 6 |
| 4 | 8 | 30 | 16 | 8 |

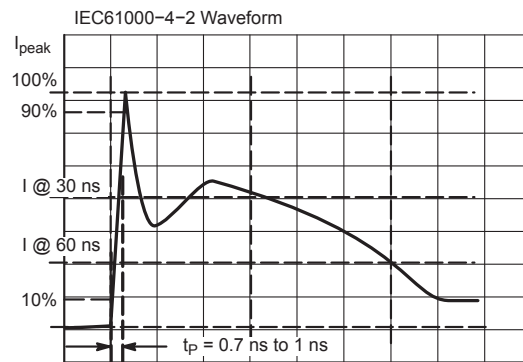


Figure . IEC61000-4-2 Spec

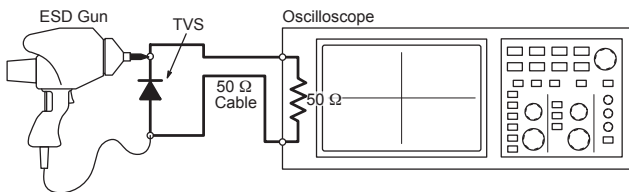


Figure . Diagram of ESD Test Setup

PACKAGE INFORMATION

| Device | Package | Shipping |
|-----------|---------|----------------|
| ESD9L3V3C | SOD-923 | 8000/Tape&Reel |

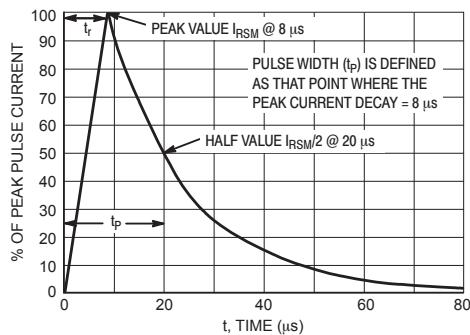


Figure 5. $8 \times 20\ \mu\text{s}$ Pulse Waveform