

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



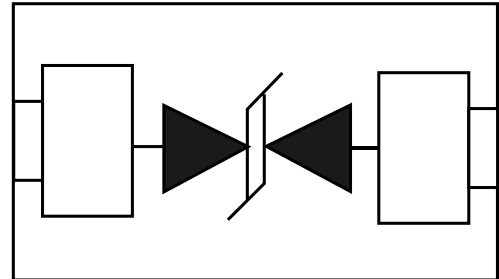
PLED

Product data sheet

www.msksemi.com

Features

- Small Body Outline Dimensions:
0.039" x 0.024" (1.0 mm x 0.60 mm)
- Protects one I/O or power line
- Low Clamping Voltage
- Ultra Low Capacitance:0.9pF
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



SOD-882

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

Mechanical Characteristics

- DFN1006
- Molding compound flammability rating:
UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

| P/N | V _{RWM} (V) | I _R (μA) @ V _{RWM} | V _{BR} (V) @ I _T (Note 2) | I _T | C (pF) | V _C (V) @ I _{PP} = 1 A (Note 3) | V _C |
|-----------------|----------------------|--|---|----------------|--------|---|---------------------------|
| | Max | Max | Min | mA | Max | Max | Per IEC61000-4-2 (Note 4) |
| ESD9L5.0ST5G-MS | 5.0 | 1.0 | 5.4 | 1.0 | 0.9 | 12.9 | Figures 1 and 2 See Below |

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

ELECTRICAL CHARACTERISTICS

(T_A = 25°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 |
| I _F | Forward Current |
| V _F | Forward Voltage @ I _F |
| P _{pk} | Peak Power Dissipation |
| C | Capacitance @ V _R = 0 and f = 1.0 MHz |

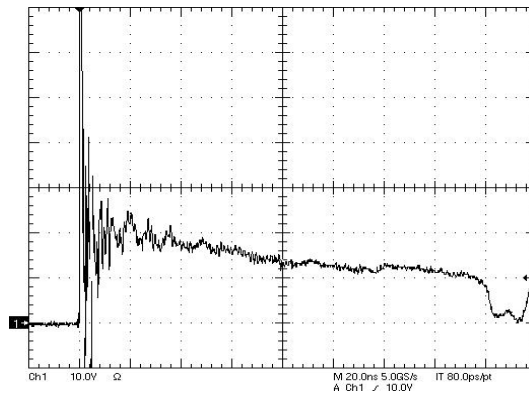
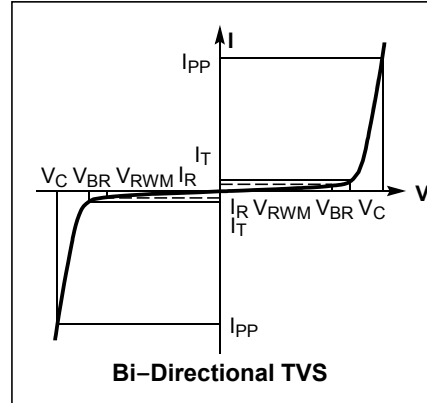


Figure 1. ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000-4-2

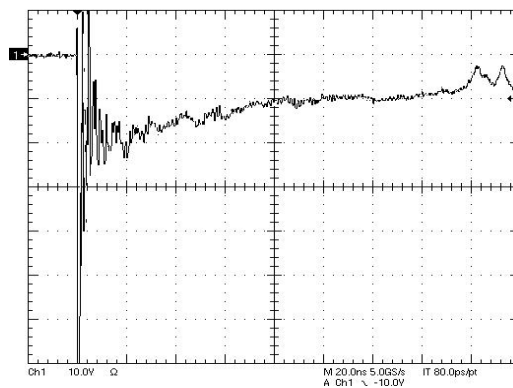


Figure 2. ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000-4-2

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 |

IEC61000-4-2 Waveform

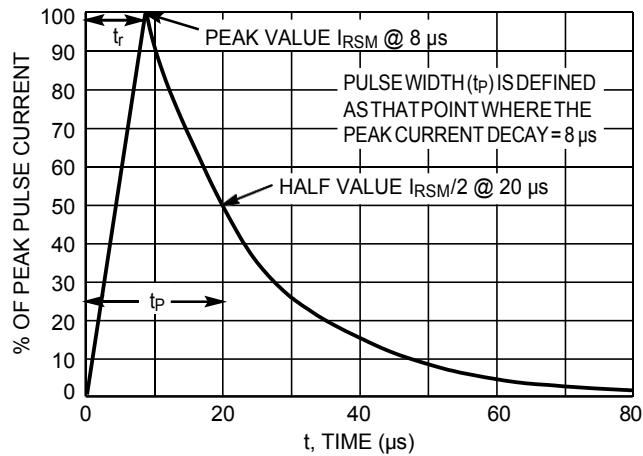
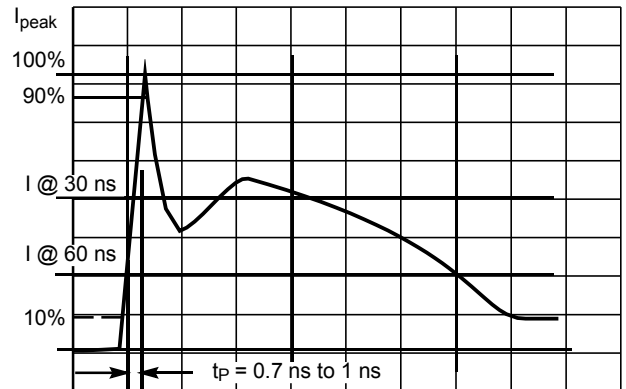
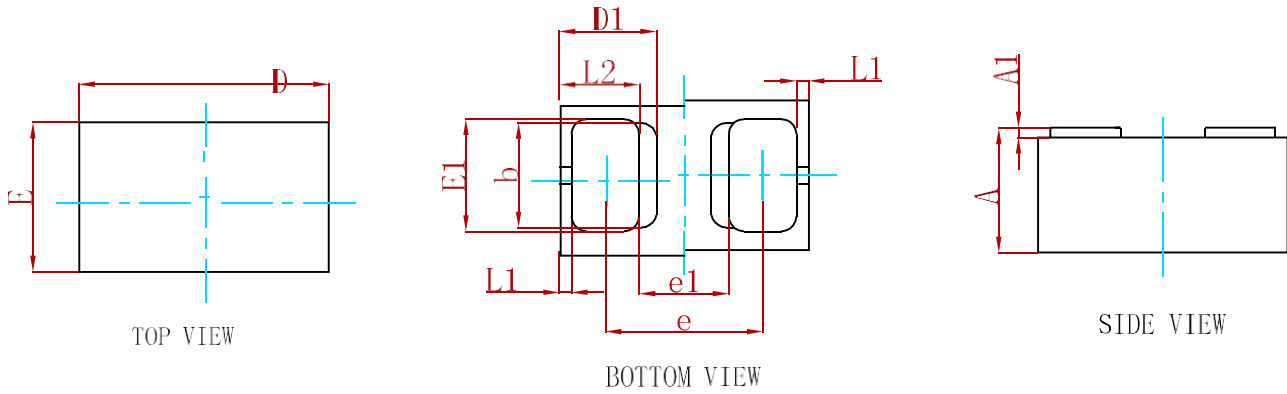


Figure 4. 8 X 20 μs Pulse Waveform

PACKAGE MECHANICAL DATA

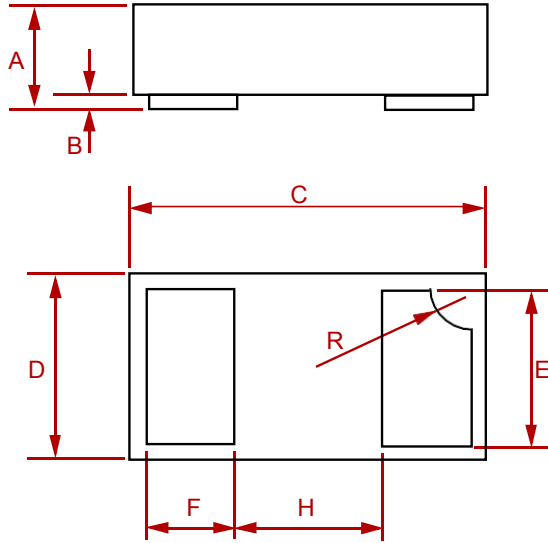


| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.450 | 0.550 | 0.018 | 0.022 |
| A1 | 0.010 | 0.090 | 0.000 | 0.004 |
| D | 0.950 | 1.050 | 0.037 | 0.041 |
| E | 0.550 | 0.650 | 0.022 | 0.026 |
| D1 | 0.390REF. | | 0.015REF. | |
| E1 | 0.400 | 0.500 | 0.016 | 0.020 |
| b | 0.420REF. | | 0.017REF. | |
| e | 0.580 | 0.680 | 0.023 | 0.027 |
| e1 | 0.360REF. | | 0.014REF. | |
| L1 | 0.050REF. | | 0.002REF. | |
| L2 | 0.270 | 0.370 | 0.011 | 0.015 |

REEL SPECIFICATION

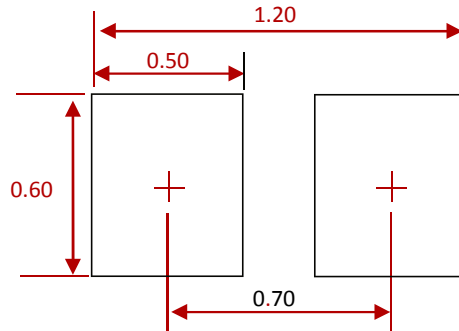
| P/N | PKG | QTY |
|-----------------|---------|-------|
| ESD9L5.0ST5G-MS | SOD-882 | 10000 |

PACKAGE MECHANICAL DATA



| Dim | Inches | | Millimeters | |
|-----|-----------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.0125 | 0.02 | 0.32 | 0.52 |
| B | 0.000 | 0.002 | 0.00 | 0.05 |
| C | 0.037 | 0.043 | 0.95 | 1.080 |
| D | 0.022 | 0.027 | 0.55 | 0.680 |
| E | 0.016 | 0.024 | 0.40 | 0.60 |
| F | 0.008 | 0.012 | 0.20 | 0.30 |
| H | 0.015Typ. | | 0.40Typ. | |
| R | 0.001 | 0.005 | 0.05 | 0.15 |

Suggested Pad Layout



NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

REEL SPECIFICATION

| P/N | PKG | QTY |
|-----------------|---------|-------|
| ESD9L5.0ST5G-MS | SOD-882 | 10000 |

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