

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

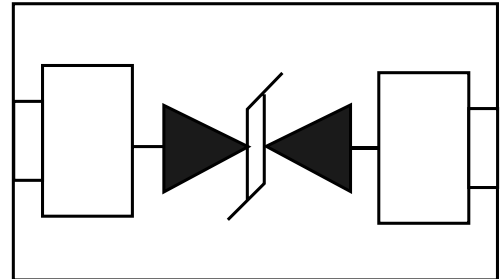


PLED

Product data sheet

## 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<sub>A</sub> = 25°C unless otherwise noted)

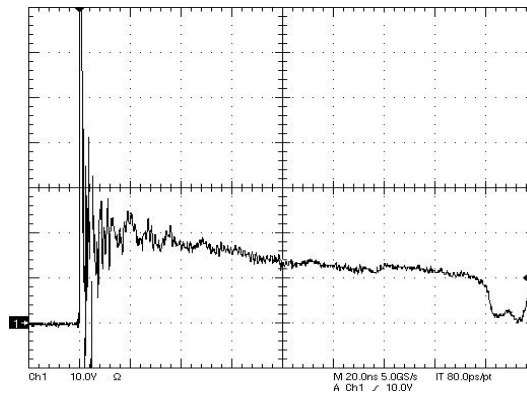
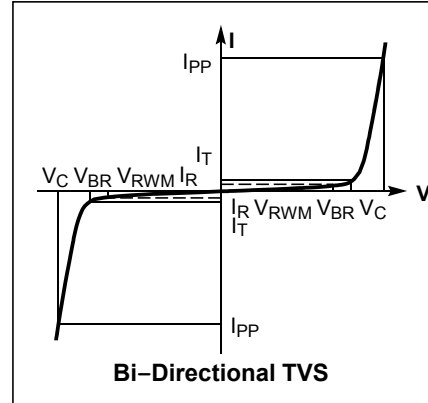
P/N	V <sub>RWM</sub> (V)	I <sub>R</sub> (μA) @ V <sub>RWM</sub>	V <sub>BR</sub> (V) @ I <sub>T</sub> (Note 2)	I <sub>T</sub>	C (pF)	V <sub>C</sub> (V) @ I <sub>PP</sub> = 1 A (Note 3)	V <sub>C</sub>
	Max	Max	Min	mA	Max	Max	Per IEC61000-4-2 (Note 4)
ESD9L5.0ST5G-MS	5.0	1.0	5.4	1.0	0.9	12.9	Figures 1 and 2 See Below

2. V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C.
3. Surge current waveform per Figure 4.
4. For test procedure see Figures 3.

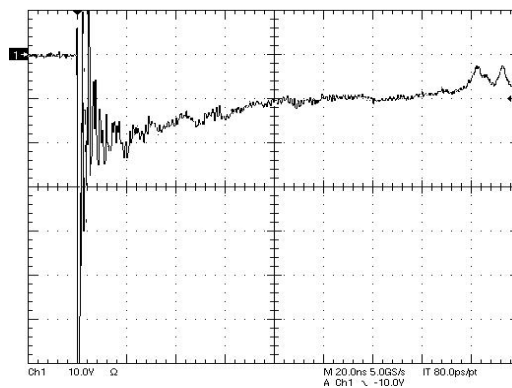
**ELECTRICAL CHARACTERISTICS**

(T<sub>A</sub> = 25°C unless otherwise noted)

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
P <sub>pk</sub>	Peak Power Dissipation
C	Capacitance @ V <sub>R</sub> = 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

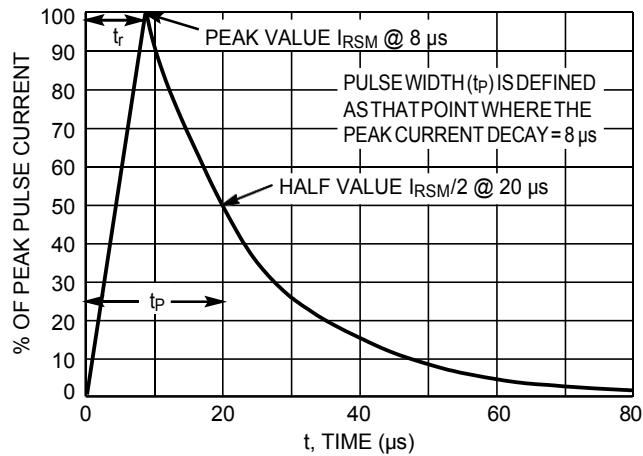
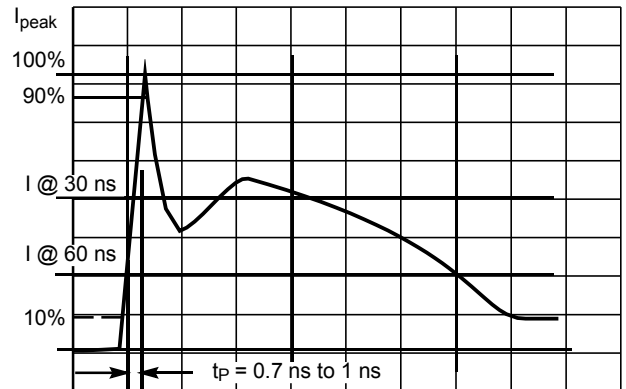
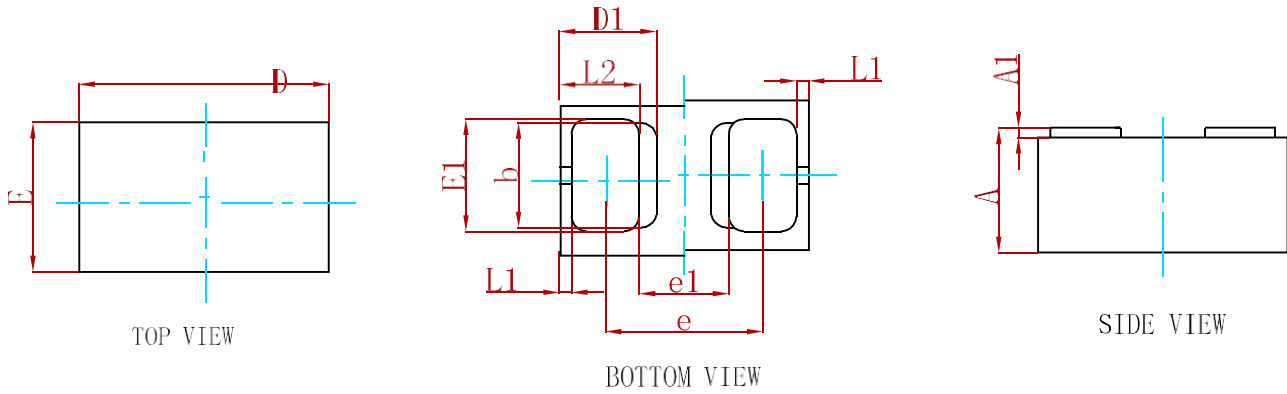


Figure 4. 8 X 20  $\mu\text{s}$  Pulse Waveform

**PACKAGE MECHANICAL DATA**

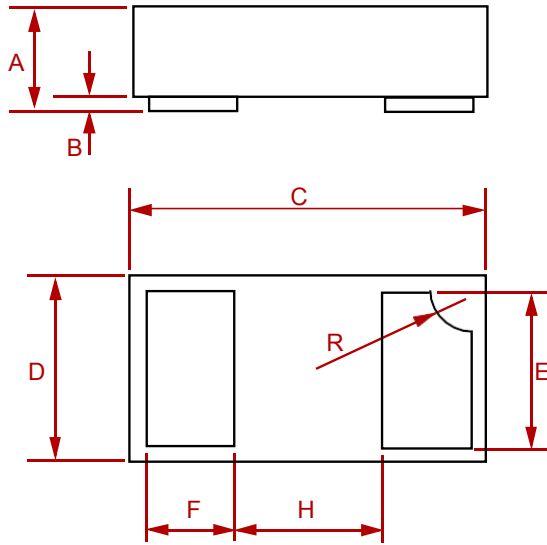


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.390REF.		0.015REF.	
E1	0.400	0.500	0.016	0.020
b	0.420REF.		0.017REF.	
e	0.580	0.680	0.023	0.027
e1	0.360REF.		0.014REF.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

**REEL SPECIFICATION**

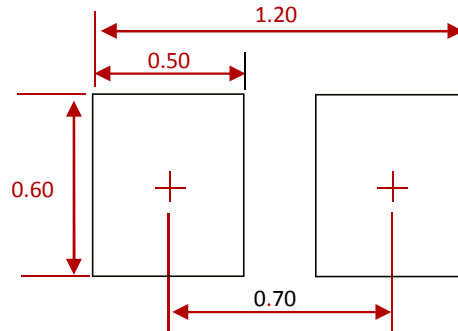
P/N	PKG	QTY
ESD9L5.0ST5G-MS	SOD-882	10000

**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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