

**ESD PROTECTION DEVICE**

STAND-OFF VOLTAGE – **3.3 Volts**  
POWER DISSIPATION – **90 WATTS**

**GENERAL DESCRIPTION**

L09ESD3V3CE2 is designed to replace multilayer varistors (MLVs) in portable applications where low operating voltage is vital. They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs. They are designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning, electrical fast transients (EFT), and cable discharge events (CDE).

**FEATURES**

- Protects one power or I/O line
- Max. peak pulse power : Ppp = 90W at tp = 8/20 us.
- Low clamping voltage
- IEC 61000-4-2, ( ESD ) > ±20KV ( air ) ; > ±10KV ( contact )
- Qualified to AEC-Q101 Rev. C

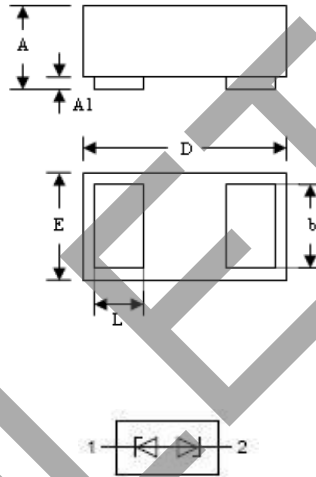
**APPLICATION**

- Cellular Handsets & Accessories
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players

**MECHANICAL DATA**

- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Moisture Sensitivity: Leve 1 per J-STD-020C
- Component in accordance to RoHs 2011/65/EU

**SOD-882**



SOD-882		
DIM.	MIN.	MAX.
A	0.47	0.53
A1	0.00	0.05
b	0.25	0.55
D	0.95	1.075
E	0.55	0.675
L	0.20	0.45

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode
2	Cathode

OBSOLETE – PART DISCONTINUED

**MAXIMUM RATINGS (Tj= 25°C unless otherwise noticed)**

Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20us)	Ppk	90	W
Peak Pulse Current (tp = 8/20us)	Ipp	5	A
Operating Junction Temperature Range	TJ	-55 to + 125	°C
Storage Temperature Range	Tstg	-55 to + 150	°C
Soldering Temperature, t max = 10s	TL	260	°C

**ELECTRICAL CHARACTERISTICS (Tj= 25°C unless otherwise noticed)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse standoff voltage	V <sub>RWM</sub>		---	---	3.3	V
Punch Through Voltage	V <sub>PT</sub>	ISB = 2uA	3.5	---	---	V
Snap-Back Voltage	V <sub>SB</sub>	ISB = 50 mA	2.8	---	---	V
Reverse leakage current	IRM	V <sub>DRM</sub> = 3.3V	---	0.05	0.5	uA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A, tp = 8/20µs	---	6.0	8.0	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 5 A, tp = 8/20µs	---	8.5	18	V
Junction capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz	---	11	15	pF

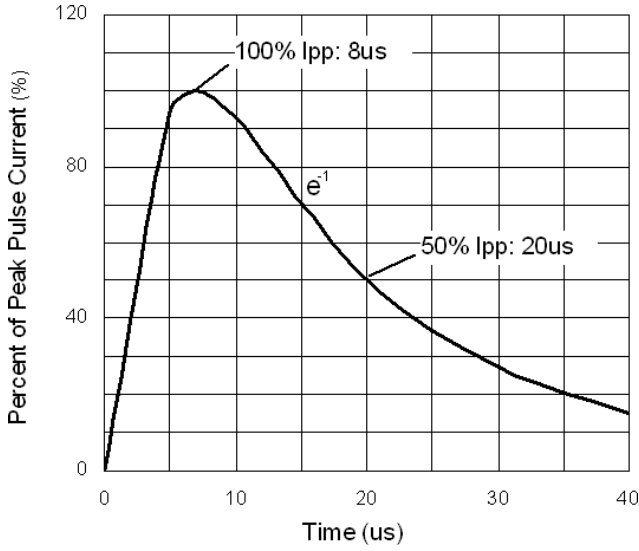


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

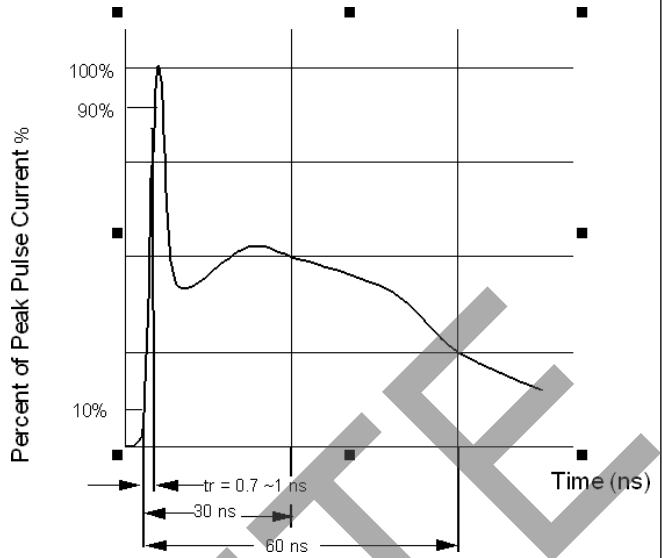


Figure 2. ESD pulse waveform according to IEC 61000-4-2

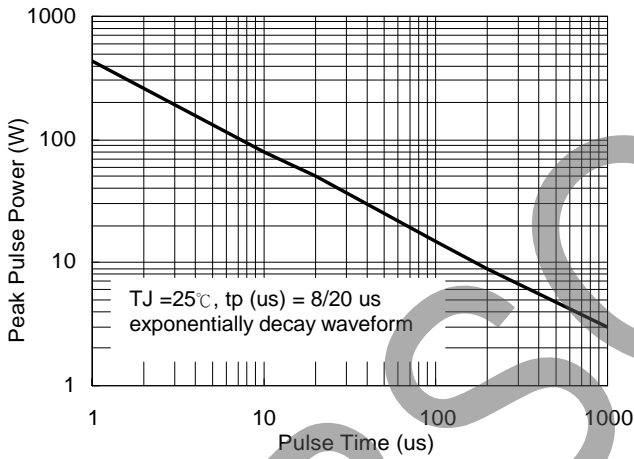


Figure 3. Power Dissipation versus Pulse Time

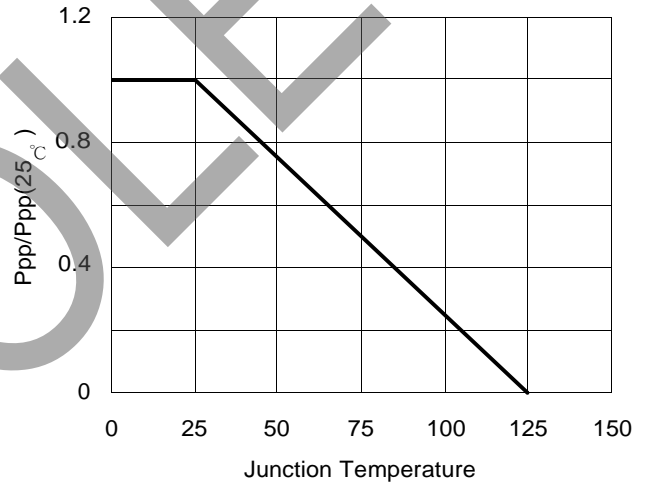


Figure 4. Peak pulse power versus TJ

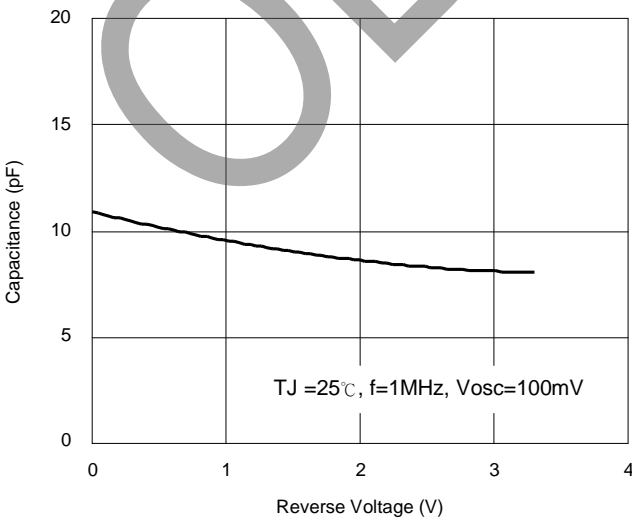


Figure 5. Typical Junction Capacitance

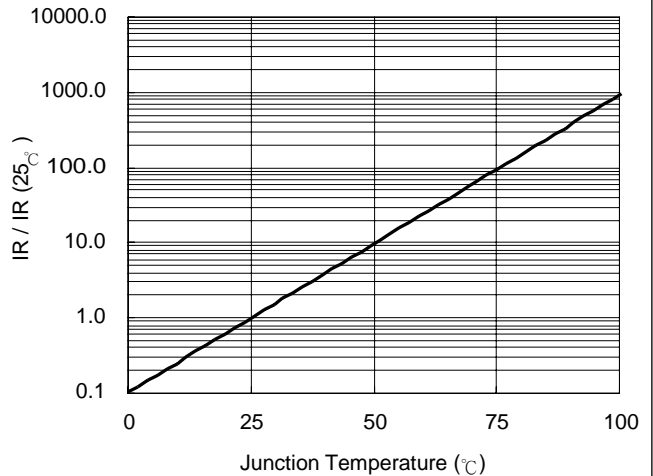


Figure 6. Reverse Leakage Current versus TJ

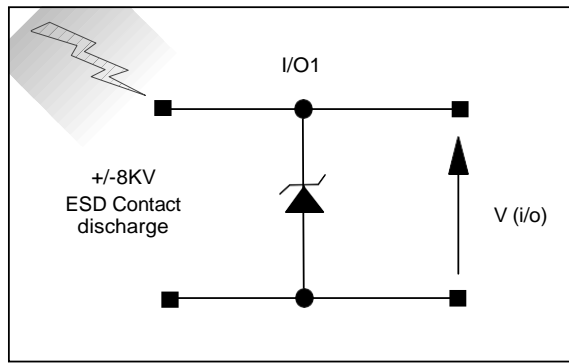


Figure 7. ESD Test Configuration

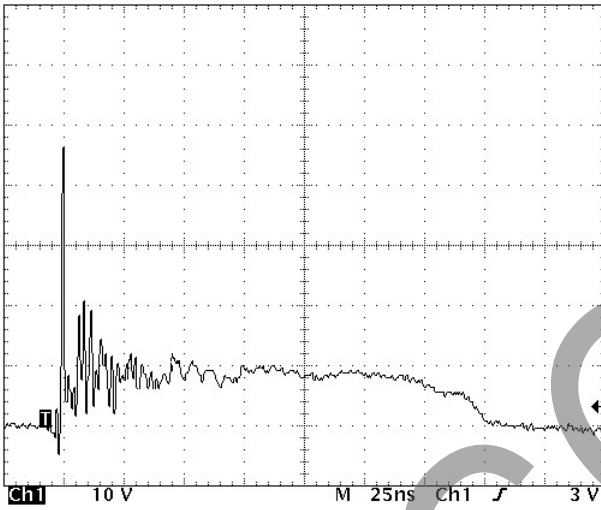


Figure 8. Clamped +8 kV ESD voltage waveform

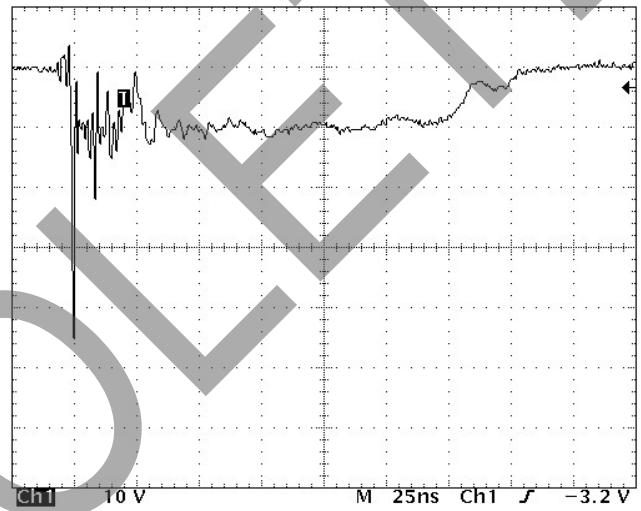
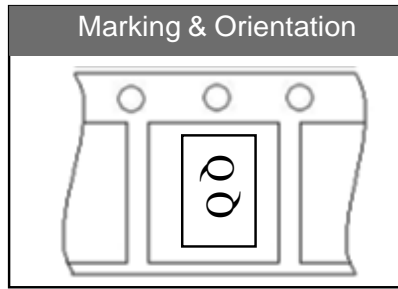


Figure 9. Clamped -8 kV ESD voltage waveform

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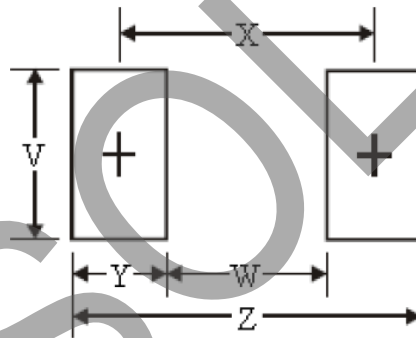
**Marking & Orientation**



**Packaging Information**

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L09ESD3V3CE2	10K	7	150K	300K

**SOD-882 Soldering Pad Layout**



Dim.	Millimeters	Inches
Z	1.30	0.051
X	0.75	0.029
W	0.20	0.007
Y	0.55	0.021
V	0.80	0.031

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