

SOD882 Plastic Package Transient Voltage Suppressors ESD Protection Diode

Green Product



SOD882 Package



Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

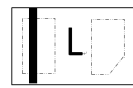
| Symbol | Parameter | Value | Units |
|-----------|--|-------------|------------------|
| PD | Total Power Dissipation on FR-5 Broad | 150 | mW |
| T_L | Max Lead Solder Temperature range (10 Second Duration) | 260 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_J | Junction Temperature | +150 | $^\circ\text{C}$ |
| ESD | IEC61000-4-2 Air Discharge | ± 15 | KV |
| | Contact Discharge | ± 8 | |
| EFT | IEC61000-4-4 | 40 | A |
| ESD | Per Human Body Model | 16 | KV |

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

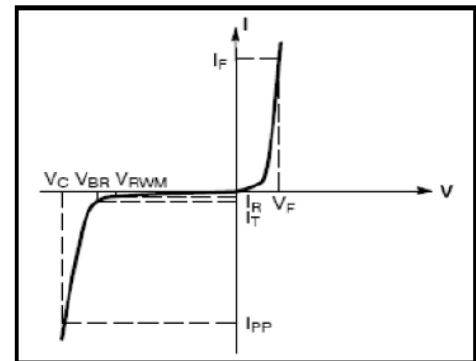
- § Ultra Low Capacitance <0.9pF
- § Low Clamping Voltage
- § Small Body Outline Dimensions
- § Low Leakage Current
- § Response Time is Typically < 1ns
- § ESD Rating of Class 3 (>16kV) per Human Body Model
- § RoHS Compliant
- § Green EMC
- § Matte Tin(Sn) Lead Finish
- § Band Indicates Cathode
- § Weight: approx. 0.001g

DEVICE MARKING CODES:

| Device Type | Marking | Shipping |
|-------------|---|--------------------|
| ESD8LL5V0 |  | 10,000/Tape & Reel |

Electrical Parameter:

| Symbol | Parameter |
|-----------|-------------------------------------|
| V_C | Clamping Voltage @ I_{PP} |
| I_{PP} | Peak Pulse Current |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{RWM} | Reverse Standoff Voltage |
| V_F | Forward Voltage @ I_F |
| I_F | Forward Current |



V-I characteristics for a uni-directional TVS

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

| Device Type | V_{RWM} (Volts) | $I_R @ V_{RWM}$ (μA) | $V_{BR} @ I_T$ (Note 1) (Volts) | | I_T (mA) | $V_C @ I_{PP}^* = 1\text{A}$ (Volts) | $V_C @ \text{Max } I_{PP}^*$ | I_{PP}^* (A) | $C @$ $V_R = 0\text{V}, f = 1\text{MHz}$ (pF) |
|-------------|----------------------|--------------------------------------|---------------------------------------|-----|---------------|---|------------------------------|-------------------|---|
| | Max | Max | Min | Max | | Typ. | Max | Max | Typ. |
| ESD8LL5V0 | 5.0 | 1 | 5.4 | --- | 1.0 | 8 | 20 | 4 | 0.65 |

* Surge current waveform per Figure 1.

Note 1: V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .

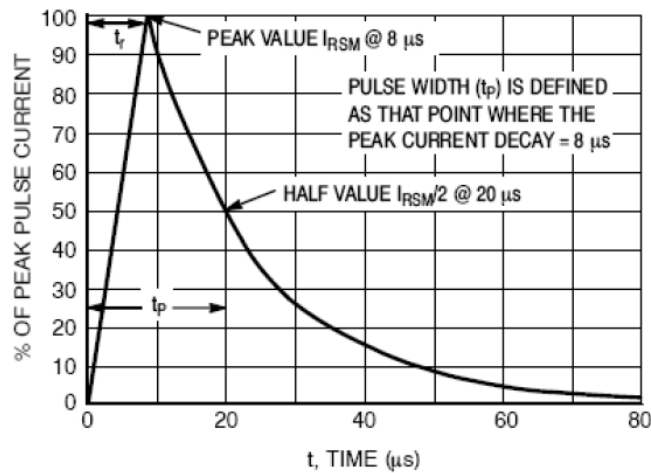
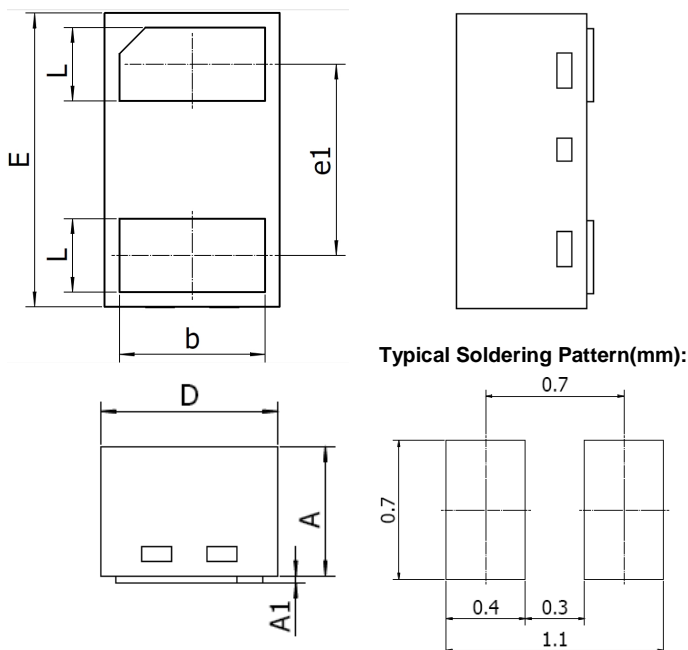
SURGE CURRENT WAVEFORM:


Figure 1. $8 \times 20 \mu\text{s}$ Pulse Waveform

SOD882 Package Outline


| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.46 | 0.50 | 0.018 | 0.020 |
| A1 | --- | 0.03 | --- | 0.001 |
| b | 0.45 | 0.55 | 0.018 | 0.022 |
| D | 0.55 | 0.65 | 0.022 | 0.026 |
| E | 0.95 | 1.05 | 0.037 | 0.041 |
| e1 | Typ. 0.65 | | Typ. 0.026 | |
| L | 0.20 | 0.30 | 0.008 | 0.012 |

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