

# LESD8LL3.3T5G ESD PROTECTION DIODE

## Discription

The LESD8LL3.3T5G is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, digital cameras and many other portable applications where board space is at a premium.

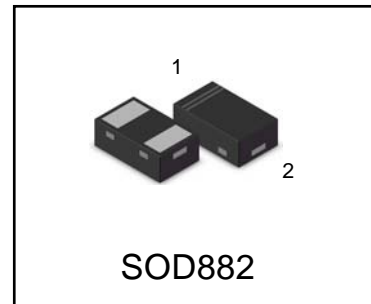
## Applications

- I Cellular phones audio
- I Digital cameras
- I Portable applications
- I Mobile telephone

## Features

- I Low Leakage
- I Response Time is Typically < 1 ns
- I ESD Rating of Class 3 per Human Body Model
- I IEC61000-4-2 Level 4 ESD Protection
- I We declare that the material of product compliant with RoHS requirements and Halogen Free.

LESD8LL3.3T5G



## Ordering information

| Device        | Marking | Shipping        |
|---------------|---------|-----------------|
| LESD8LL3.3T5G | Q7      | 10000/Tape&Reel |

## MAXIMUM RATINGS

| Rating   | Symbol                           | Value      | Unit     |
|--|----------------------------------|------------|----------|
| IEC 61000-4-2 (ESD) Air discharge<br>Contact discharge                   |                                  | ±16<br>±16 | kV<br>kV |
| Total Power Dissipation on FR-5 Board (Note 1)<br>@ T <sub>A</sub> =25°C | PD                               | 200        | mW       |
| Junction and Storage Temperature Range                                   | T <sub>J</sub> ,T <sub>STG</sub> | -55 to 150 | °C       |
| Lead Solder Temperature – Maximum (10 Second Duration)                   | TL                               | 260        | °C       |

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating 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.

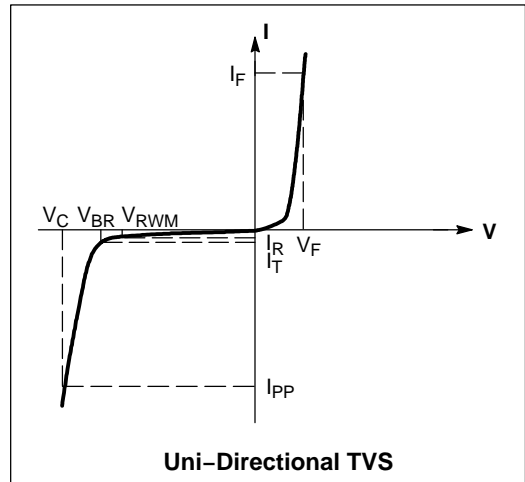
1. FR-5 = 1.0\*0.75\*0.62 in.

# LESD8LL3.3T5G

## 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   |



## ELECTRICAL CHARACTERISTICS

| Device        | V <sub>RWM</sub> (V) | I <sub>R</sub> (μA) @ V <sub>RWM</sub> | V <sub>BR</sub> (V) @ I <sub>T</sub> = 1 mA (Note 1) |     | V <sub>C</sub> (V) @ I <sub>PP</sub> = 1 A (Note 2) | V <sub>C</sub> (V) @ MAX I <sub>PP</sub> (Note 2) | I <sub>PP</sub> (A) (Note 2) | P <sub>PK</sub> (W) (Note 2) | C (pF) |     |
|---------------|----------------------|--|--|-----|---|---|------------------------------|------------------------------|--------|-----|
|               | Max                  | Max                                    | Min  | Max | Max   | Max   | Max                          | Max                          | Typ    | Max |
| LESD8LL3.3T5G | 3.3                  | 0.5                                    | 3.8  | 7.8 | 10  | 14  | 4                            | 65                           | 0.5    | 0.6 |

Other voltage available upon request.

1. V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C
2. Surge current waveform per Figure 1.

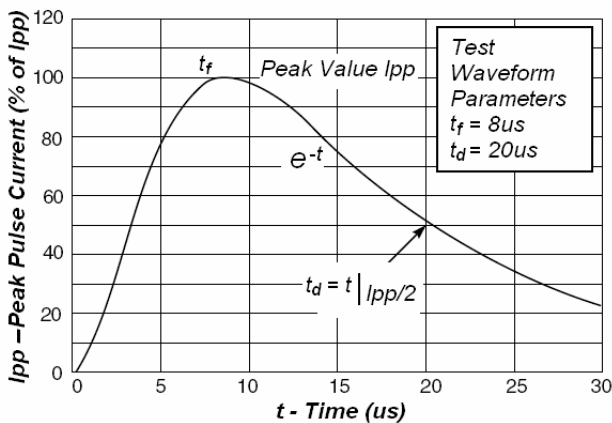


Fig1. Pulse Waveform

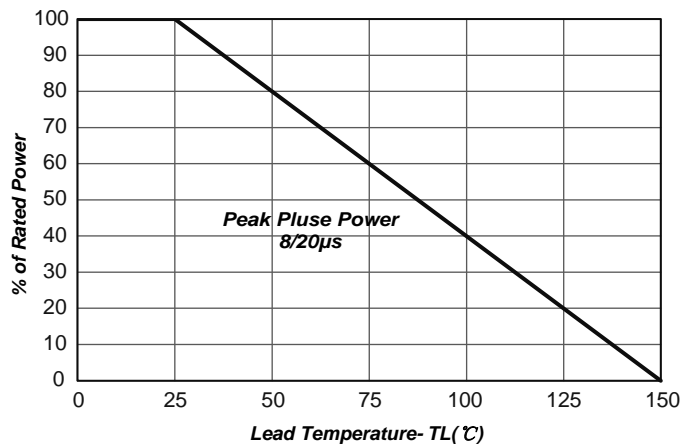
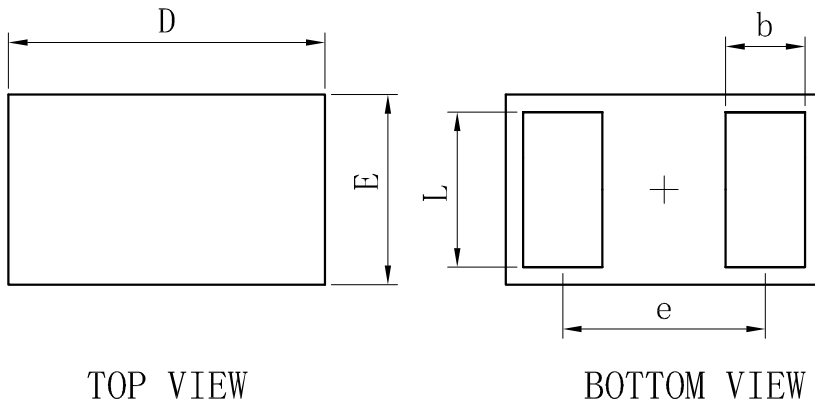


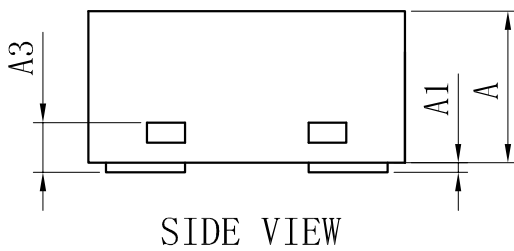
Fig2. Power Derating Curve

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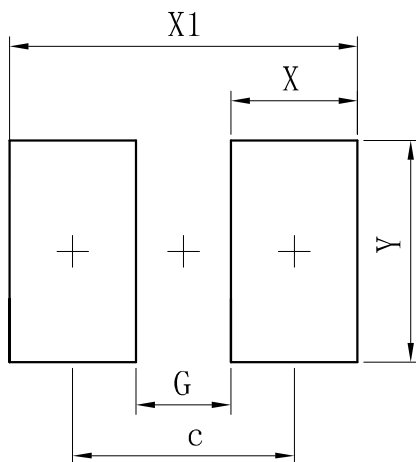
## OUTLINE AND DIMENSIONS



| SOD882               |           |      |      |
|----------------------|-----------|------|------|
| Dim                  | Min       | Typ  | Max  |
| D                    | 0.95      | 1.00 | 1.05 |
| E                    | 0.55      | 0.60 | 0.65 |
| e                    | -         | 0.64 | -    |
| L                    | 0.44      | 0.49 | 0.54 |
| b                    | 0.20      | 0.25 | 0.30 |
| A                    | 0.43      | 0.48 | 0.53 |
| A1                   | 0         | -    | 0.05 |
| A3                   | 0.127REF. |      |      |
| All Dimensions in mm |           |      |      |



## SOLDERING FOOTPRINT



| Dimensions | (mm) |
|------------|------|
| c          | 0.70 |
| G          | 0.30 |
| X          | 0.40 |
| X1         | 1.10 |
| Y          | 0.70 |

**DISCLAIMER**

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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