

# LESD8D24CAT5G ESD PROTECTION DIODE

## Discription

The LESD8D24CAT5G is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. 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.

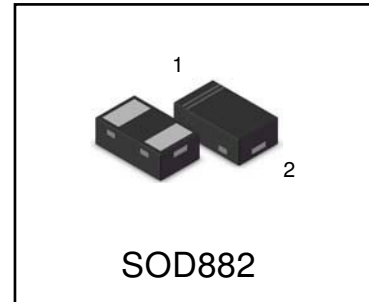
## Applications

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

## Features

- | Small Body Outline Dimensions: 1.00 mm x 0.60 mm
- | Low Body Height: 0.50 mm
- | Low Leakage
- | Response Time is Typically < 1 ns
- | ESD Rating of Class 3 per Human Body Model
- | IEC61000-4-2 Level 4 ESD Protection
- | We declare that the material of product compliance with RoHS requirements and Halogen Free.

LESD8D24CAT5G



## Ordering information

| Device        | Marking | Shipping        |
|---------------|---------|-----------------|
| LESD8D24CAT5G | 1A      | 10000/Tape&Reel |

## MAXIMUM RATINGS

| Rating   | Symbol                           | Value      | Unit     |
|--|----------------------------------|------------|----------|
| IEC 61000-4-2 (ESD) Air Contact<br>Contact discharge   |                                  | ±30<br>±30 | kV<br>kV |
| 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       |

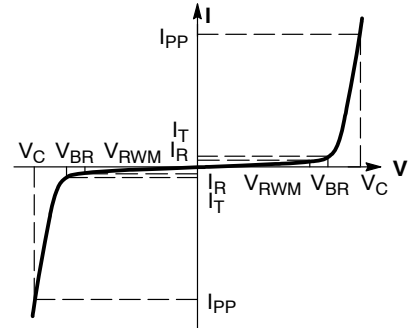
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

# LESD8D24CAT5G

## Electrical Parameter

( $T_A = 25^\circ\text{C}$  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                                |
| $P_{pk}$  | Peak Power Dissipation                      |
| C         | Capacitance @ $V_R = 0$ and $f = 1.0$ MHz   |

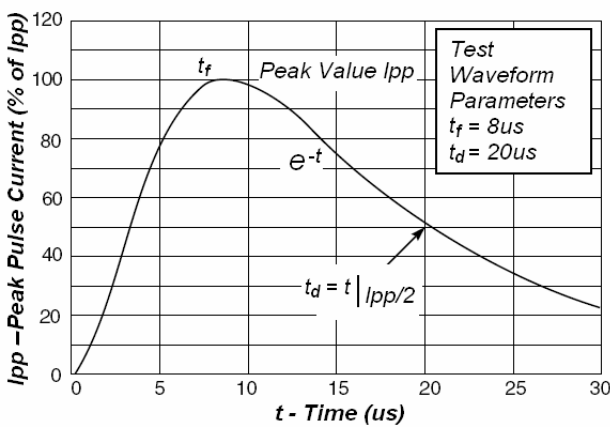


## Electrical Parameter ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

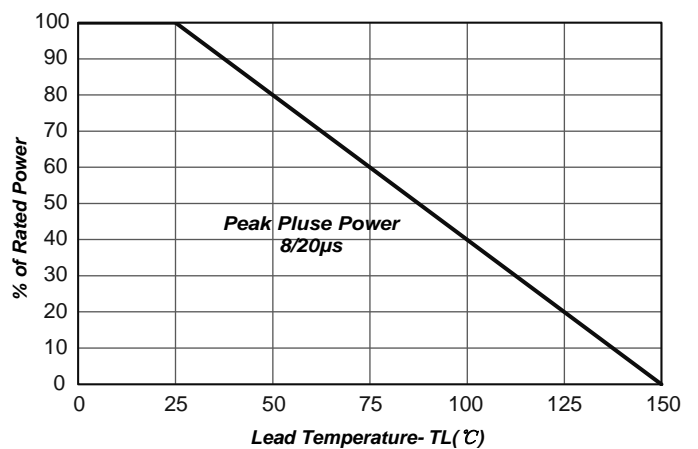
| Device        | $V_{RWM}$ (V) | $I_R$ ( $\mu\text{A}$ )<br>@ $V_{RWM}$ | $V_{BR}$ (V) *<br>@ $I_T = 1\text{mA}$ |     | $I_{PP}$ (A) ** | $V_C$ (V) **<br>@ $I_{PP} = 1\text{A}$ | $V_C$ (V) **<br>@ $I_{PP} = 8\text{A}$ | $P_{PK}$ (W) ** | C (pF)<br>$V_R = 0\text{V}, f = 1\text{MHz};$ |
|---------------|---------------|--|--|-----|-----------------|--|--|-----------------|---|
|               | Max           | Max                                    | Min                                    | Max | Max             | Max                                    | Max                                    | Max             | Max   |
| LESD8D24CAT5G | 24            | 0.1                                    | 25                                     | 32  | 8               | 32                                     | 42                                     | 350             | 35  |

\*  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$ .

\*\* Surge current waveform per Figure 1.

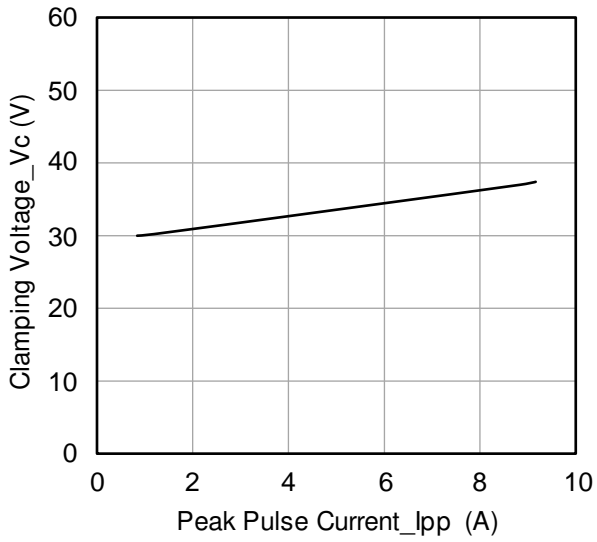


**Fig1. Pulse Waveform**

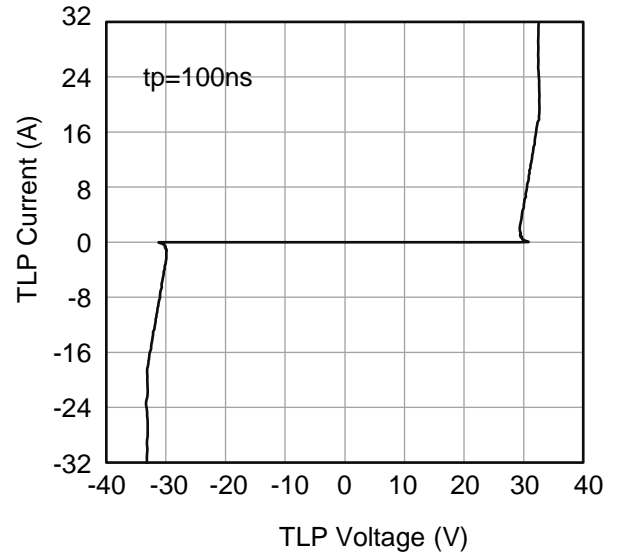


**Fig2. Power Derating Curve**

# LESD8D24CAT5G



**Fig 3. Clamping Voltage vs. Peak Pulse Current**

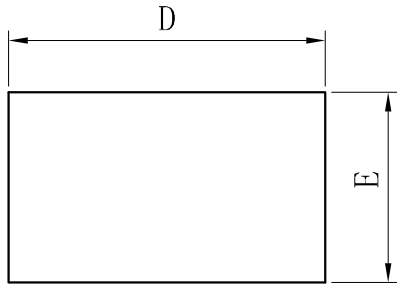


**Fig 4. TLP Measurement**

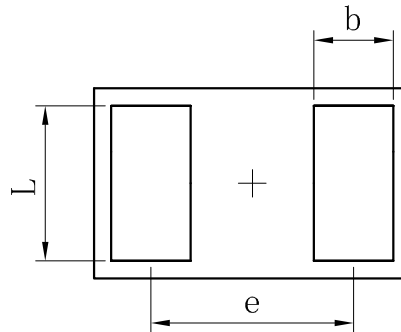
# LESD8D24CAT5G

## OUTLINE AND DIMENSIONS

### SOD882

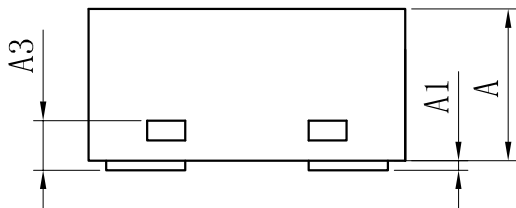


TOP VIEW



BOTTOM VIEW

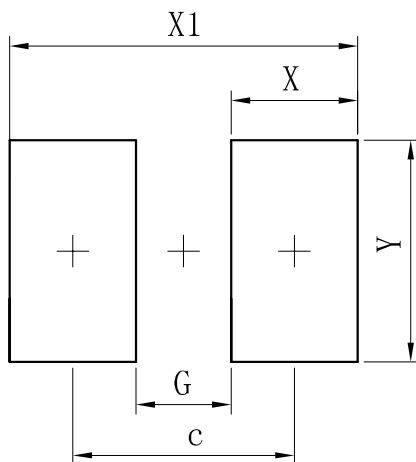
| SOD882               |           |      |      |
|----------------------|-----------|------|------|
| Dim                  | Min       | Typ  | Max  |
| D                    | 0.95      | 1.00 | 1.05 |
| E                    | 0.55      | 0.60 | 0.65 |
| e                    | -         | 0.64 | -    |
| 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 |           |      |      |



SIDE VIEW

## SOLDERING FOOTPRINT

### SOD882



| 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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