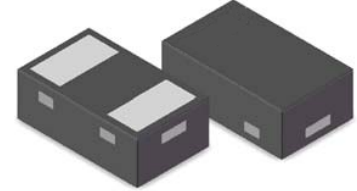


## UltraLow Capacitance ESD/Transient Protection Diode

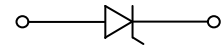
### Features

- SOD-882 package
- Low leakage current
- Low clamping voltage
- R2R + Zener technology
- Unidirectional configurations
- 60Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Ultra low capacitance ( $C_j = 0.3pF$  typ.)
- Protection one data/power line to:
- IEC 61000-4-2  $\pm 10kV$  contact  $\pm 18kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3A (8/20 $\mu s$ )
- RoHS compliant



Marking: P

SOD-882



Schematic Diagram

### Applications

- Thunderbolt, Display Port
- USB3.0, Firewire, DVI, HDMI, S-ATA
- Mobile HDMI Link, MDDI, MIPI, SWP / NFC

| Absolute Maximum Ratings ( $T_A = 25^\circ C$ unless otherwise noted) |           |             |            |
|-----------------------------------------------------------------------|-----------|-------------|------------|
| Parameter                                                             | Symbol    | Value       | Unit       |
| Peak Pulse Power ( $T_P = 8/20\mu s$ )                                | $P_{PP}$  | 60          | W          |
| ESD contact/air discharge (IEC-61000-4-2)                             | $V_{ESD}$ | 10/15       | kV         |
| Peak Pulse Current ( $t_P = 8/20\mu s$ )                              | $I_{PP}$  | 3           | A          |
| Junction Temperature                                                  | $T_J$     | -55 to +125 | $^\circ C$ |
| Storage temperature                                                   | $T_{STG}$ | -55 to +150 | $^\circ C$ |
| Maximum Lead Solder Temperature (10 second duration)                  | $T_L$     | 260         | $^\circ C$ |

| Electrical Specifications ( $T_A = 25^\circ C$ unless otherwise noted) |           |                      |     |     |      |      |
|------------------------------------------------------------------------|-----------|----------------------|-----|-----|------|------|
| Parameter                                                              | Symbol    | Test Conditions      | Min | Typ | Max  | Unit |
| Reverse stand-off Voltage                                              | $V_{RWM}$ |                      |     |     | 5.0  | V    |
| Reverse Breakdown Voltage                                              | $V_{BR}$  | $I_T = 1mA$          | 6.5 | 8.5 |      | V    |
| Reverse Leakage Current                                                | $I_R$     | $V_R = 5.0V$         |     | 5   | 100  | nA   |
| Clamping Voltage (IEC 61000-4-5)                                       | $V_C$     | $I_{PP} = 3A$        |     |     | 20.5 | V    |
| Trigger Voltage (IEC 61000-4-2)                                        | $V_T$     | $V_{ESD} = 8kV$      |     | 135 |      | V    |
| Clamping Voltage (IEC 61000-4-2)                                       | $V_C$     | $V_{ESD} = 8kV$      |     | 20  |      | V    |
| Junction Capacitance                                                   | $C_J$     | $V_R = 0V, f = 1MHz$ |     | 0.3 | 0.35 | pF   |

## Ratings and Characteristics Curves

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

Fig.1 Peak Pulse Power Rating Curve

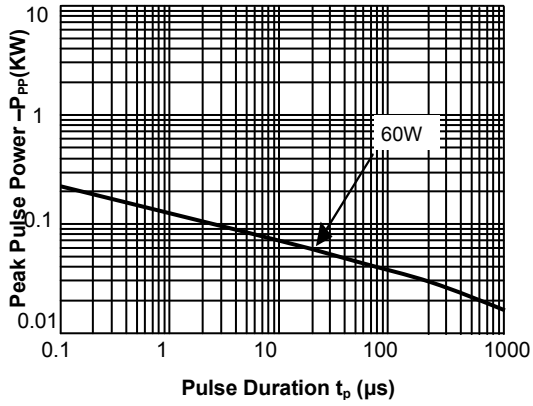


Fig.2 Pulse Derating Curve

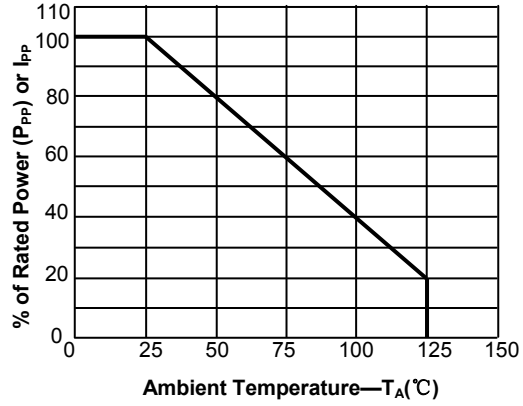


Fig.3 Pulse Waveform-8/20 $\mu\text{s}$

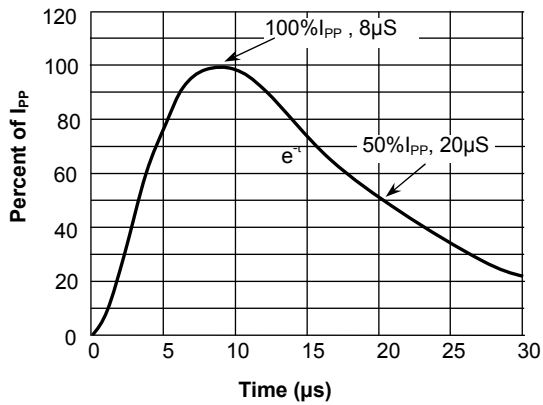


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

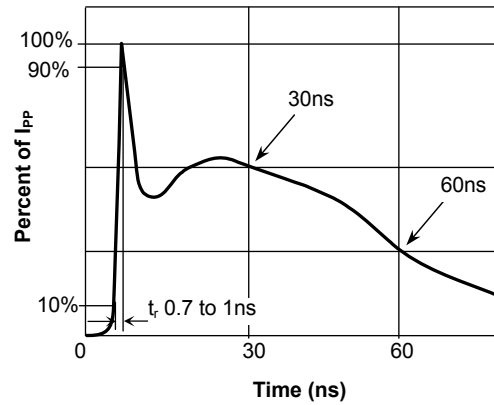


Fig.5 IEC61000-4-2 +8kV Contact Discharge

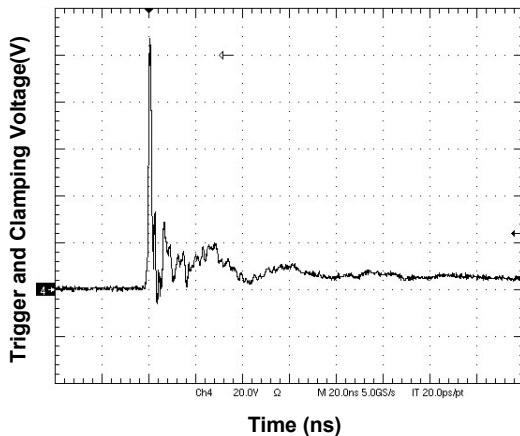
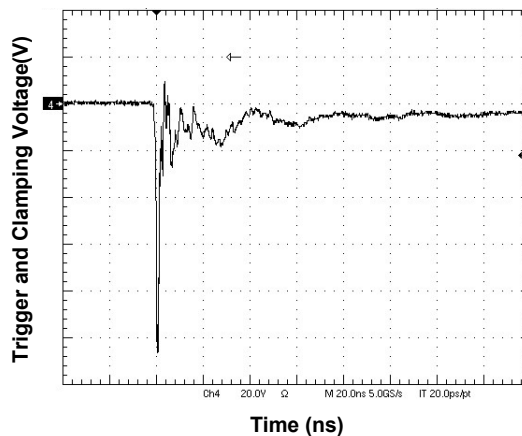
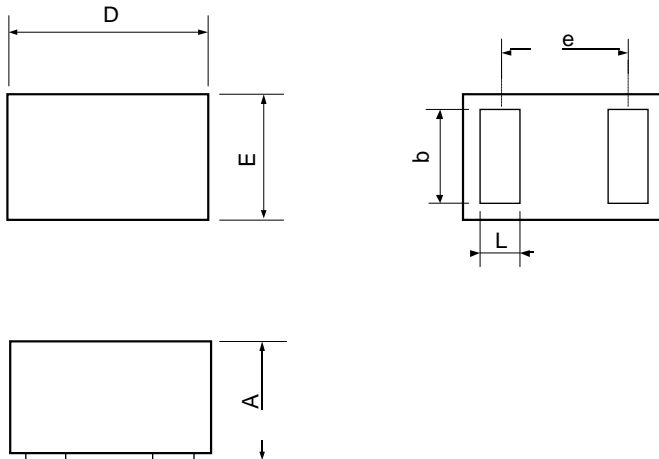


Fig.6 IEC61000-4-2 -8kV Contact Discharge



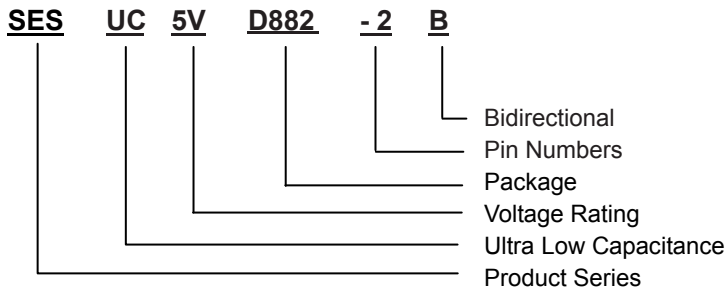
## Package Outline Dimensions

millimeters



| Symbol | Milimeter |      |      |
|--------|-----------|------|------|
|        | min       | nom  | max  |
| D      | 0.95      | 1.00 | 1.05 |
| E      | 0.55      | 0.60 | 0.65 |
| A      | 0.45      | 0.50 | 0.55 |
| b      | 0.45      | 0.50 | 0.55 |
| L      | 0.20      | 0.25 | 0.30 |
| e      | 0.65BSC   |      |      |

## Part Number System



## Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A            | 2021.06.01      | First issue            |
|                  |                 |                        |
|                  |                 |                        |

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