

DUAL ESD PROTECTION DIODES

STAND-OFF VOLTAGE - **5 Volts**
POWER DISSIPATION - **300 WATTS**

GENERAL DESCRIPTION

- The L30ESDL5V0C3-1 is a dual voltage suppressor designed to protect components which are connected to data and transmission lines against Electro Static Discharge (ESD),
- It clamps the voltage just above the logic level supply for positive transients , and to a diode drop below ground for negative transients.
- It can work as bidirectional suppressor by connecting only pin 1 to 2.

FEATURES

- 1 Unidirectional ESD protection.
- Max. peak pulse power : Ppp = 300W at tp = 8/20 us
- Ultra low leakage current : IRM < 1uA @ VBR
- ESD protection > 25KV per MIL-STD-883C, Method 3015-6: Class 3.
- IEC 61000-4-2, level 4 (ESD),>15KV(air) ;>8KV(contact) .
- Ultra small SMD plastic packages

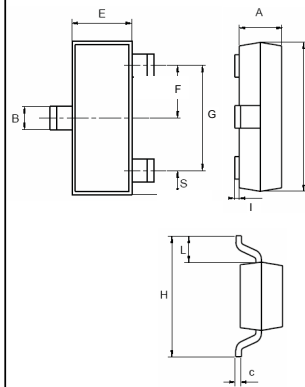
APPLICATION

- Computers and peripherals
- Communication system
- Portable electronics
- Cellular handsets and accessories.

MECHANICAL DATA

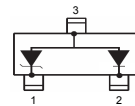
- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/EC
- Weight : 0.007 ounces, 0.21 gram

SOT23

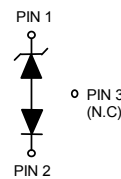


| SOT23 | | |
|-------|----------|------|
| DIM. | MIN. | MAX. |
| A | 0.89 | 1.40 |
| B | 0.30 | 0.51 |
| C | 0.085 | 0.18 |
| D | 2.75 | 3.04 |
| E | 1.20 | 1.60 |
| F | 0.85 | 1.05 |
| G | 1.70 | 2.10 |
| H | 2.10 | 2.75 |
| I | 0.0 | 0.1 |
| L | 0.6 typ. | |
| S | 0.35 | 0.65 |

All Dimensions in millimeter



| PIN ASSIGNMENT | |
|----------------|---------|
| 1 | Cathode |
| 2 | Cathode |



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

| Rating | Symbol | Value | Unit |
|--------------------------------------|--------|--------------|------|
| Peak pulse Power (8/20us Waveform) | PPPM | 300 | W |
| 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 | Max | Unit |
|--------------------------|--------|------------------------|-----|-----------|------|
| Reverse standoff voltage | VDRM | --- | --- | 5 | V |
| Reverse leakage current | IRM | VDRM = 5V | --- | 1 | uA |
| Breakdown voltage | VBR | IR = 1 mA Pin1 to 2 | 6.4 | --- | V |
| Diode capacitance | CJ | VR = 0 V , f = 1MHz | --- | 5 | pF |
| Clamping Voltage | VCL | Ipp= 1 A Ipp= 5A | --- | 9.8 11 | V |
| Peak Pulse Current | IPP | Tp= 8/20 us | | 17 | A |

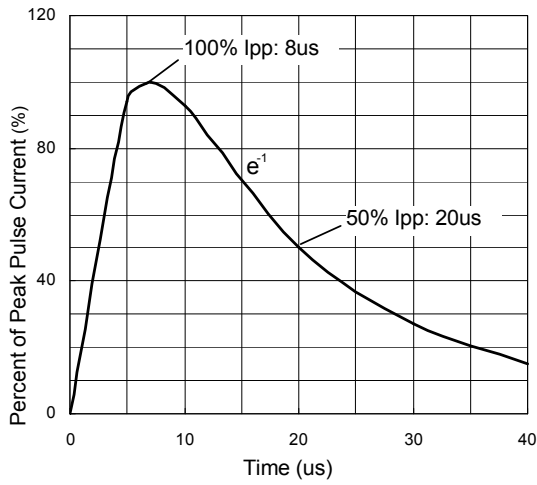


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

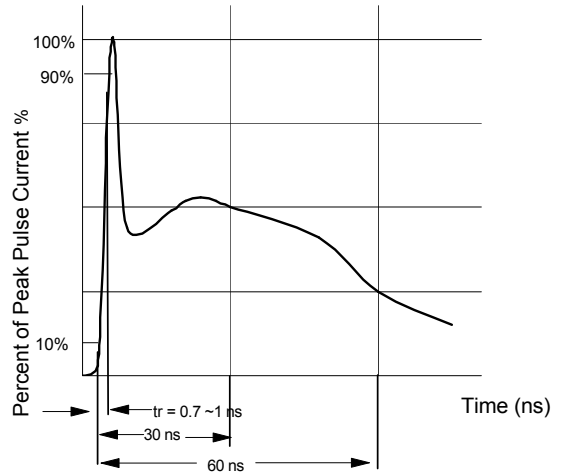


Figure 2. ESD pulse waveform according to IEC 61000-4-2

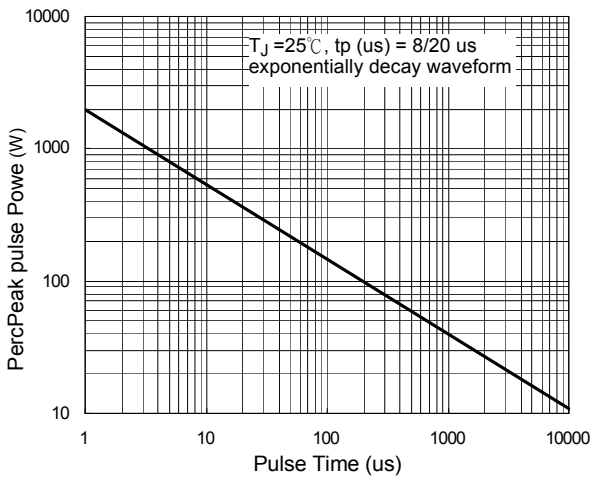


Figure 3. Power Dissipation versus Pulse Time

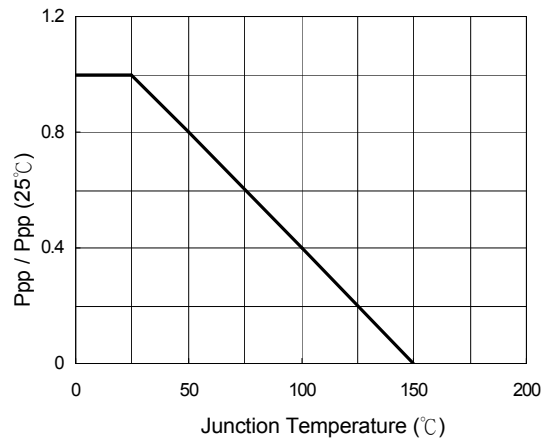


Figure 4. Peak pulse power versus TJ

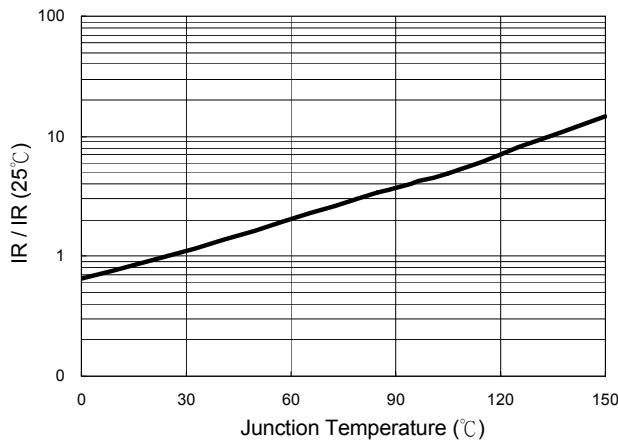


Figure 6. Reverse Leakage Current versus TJ