

## Electrostatic Discharged Protection Devices (ESD) Data Sheet

### Description

The SDD32C30L01 is designed to protect voltage sensitive components from ESD and transient voltage events. 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, portable devices, digital cameras, power supplies and many other portable applications. It is designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), electrical fast transients (EFT), and cable discharge events (CDE).



Contact : ±8kV  
Air : ±15kV

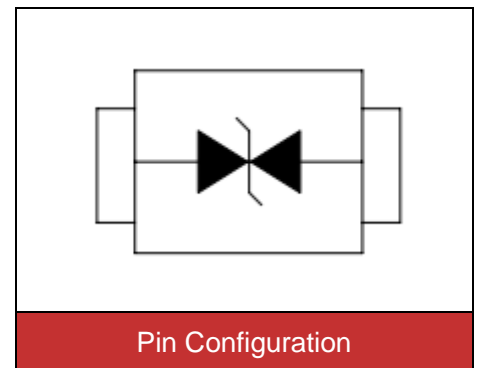


### Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD-323 surface mount package
- Working voltage: 30V
- Low leakage current
- Lead Free/RoHS compliant
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: 30C

### Applications

- Cellular handsets & Accessories
- Cordless phones
- Personal digital assistants (PDAs)
- Notebooks & Handhelds
- Portable instrumentation
- Digital cameras
- Peripherals
- MP3 players



### Maximum Ratings

| Rating                                | Symbol                            | Value    | Unit |
|---------------------------------------|-----------------------------------|----------|------|
| Peak pulse current (tp=8/20µs)        | I <sub>PP</sub>                   | 3.0      | A    |
| ESD voltage (Contact discharge)       | V <sub>ESD</sub>                  | ±8       | kV   |
| ESD voltage (Air discharge)           |                                   | ±15      |      |
| Storage & operating temperature range | T <sub>STG</sub> , T <sub>J</sub> | -50~+150 | °C   |

Electrical Characteristics ( $T_J=25^\circ\text{C}$ )

| Parameter                                  | Symbol    | Condition                    | Min. | Typ. | Max. | Unit          |
|--|-----------|------------------------------|------|------|------|---------------|
| Reverse stand-off voltage                  | $V_{RWM}$ |                              |      |      | 30   | V             |
| Reverse breakdown voltage                  | $V_{BR}$  | $I_{BR}=1\text{mA}$          | 32   |      |      | V             |
| Reverse leakage current                    | $I_R$     | $V_R=30\text{V}$             |      |      | 1.0  | $\mu\text{A}$ |
| Clamping voltage ( $t_p=8/20\mu\text{s}$ ) | $V_C$     | $I_{PP}=1\text{A}$           |      | 45   |      | V             |
| Clamping voltage ( $t_p=8/20\mu\text{s}$ ) | $V_C$     | $I_{PP}=3\text{A}$           |      | 50   |      | V             |
| Off state junction capacitance             | $C_J$     | $0\text{Vdc}, f=1\text{MHz}$ |      |      | 20   | pF            |

Typical Characteristics Curves

Figure 1. Power Derating Curve

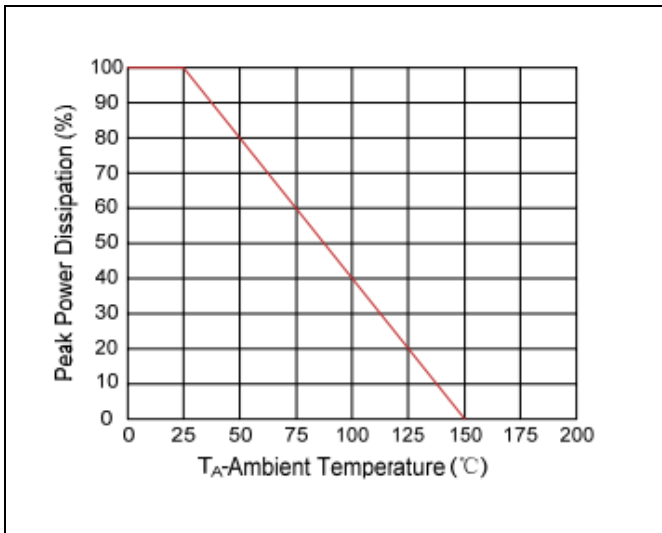


Figure 2. Pulse Waveform

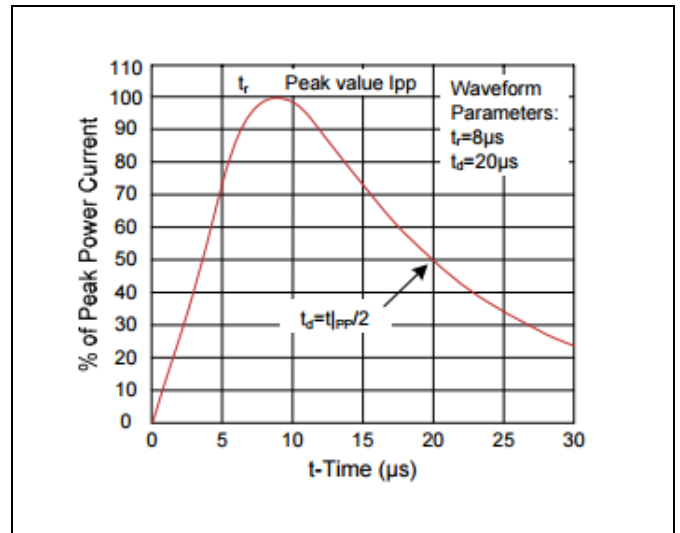


Figure 3. Capacitance vs. Reverse Voltage

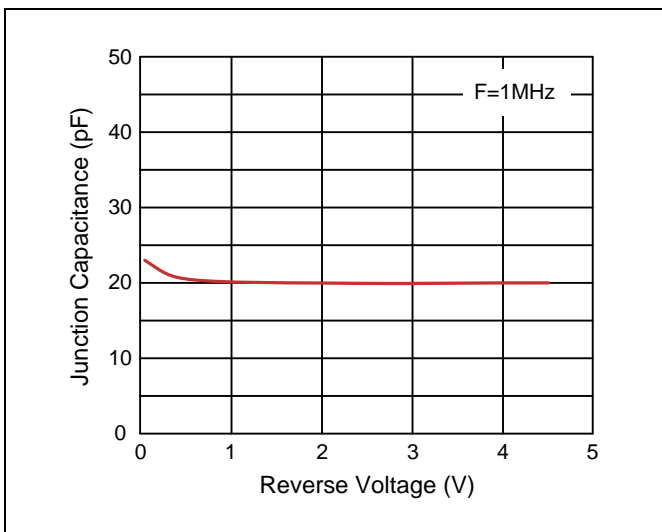
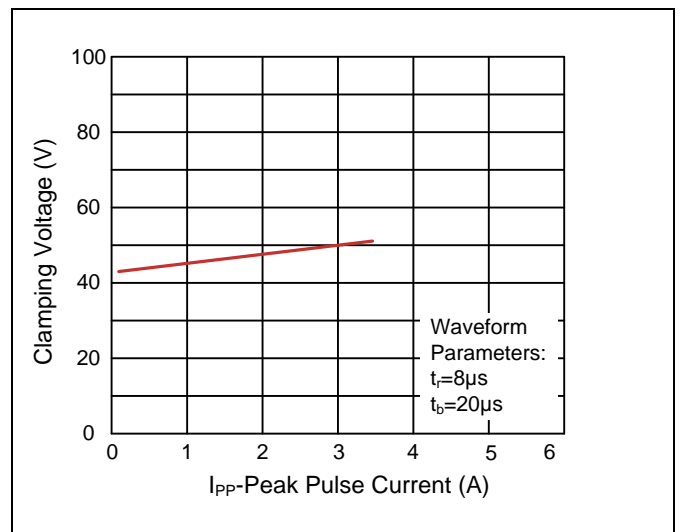
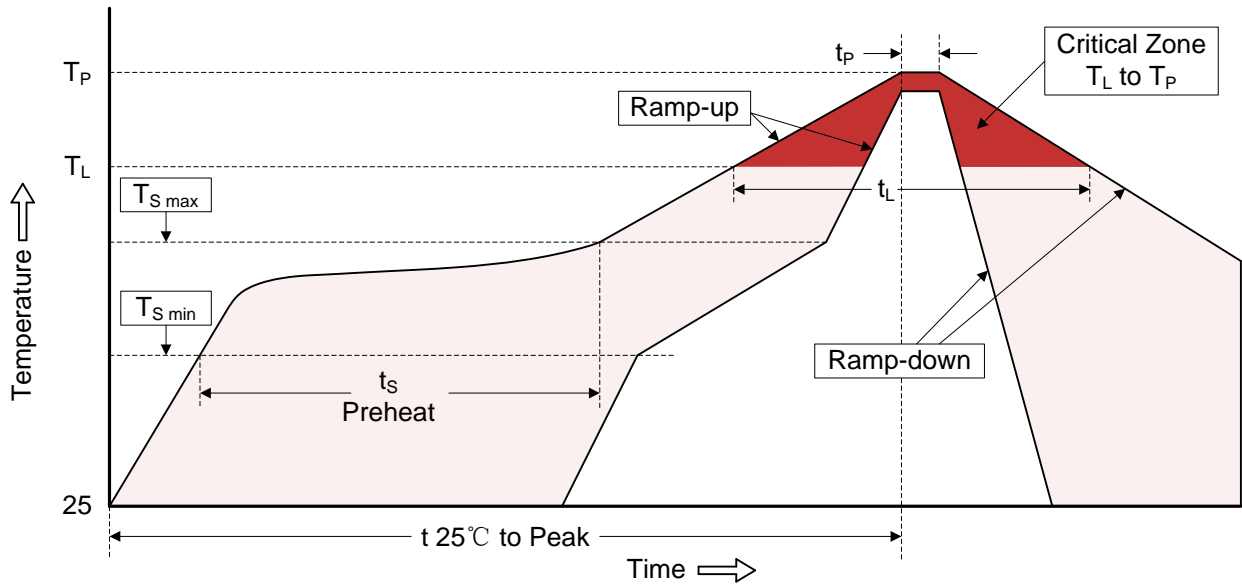


Figure 4. Clamping Voltage vs. Peak Pulse Current



Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

| Profile Feature   | Pb-Free Assembly                 |
|---|----------------------------------|
| Average ramp-up rate ( $T_L$ to $T_P$ )   | 3°C/second max.                  |
| Preheat<br>-Temperature Min ( $T_{S\ min}$ )<br>-Temperature Max ( $T_{S\ max}$ )<br>-Time (min to max) ( $t_s$ ) | 150°C<br>200°C<br>60-180 seconds |
| $T_{S\ max}$ to $T_L$<br>-Ramp-up Rate  | 3°C/second max.                  |
| Time maintained above:<br>-Temperature ( $T_L$ )<br>-Time ( $t_L$ )   | 217°C<br>60-150 seconds          |
| Peak Temperature ( $T_P$ )  | 260°C                            |
| Time within 5°C of actual Peak Temperature ( $t_p$ )  | 20-40 seconds                    |
| Ramp-down Rate  | 6°C/second max.                  |
| Time 25°C to Peak Temperature   | 8 minutes max.                   |

Dimensions (SOD-323)

| Symbol | Dimension (mm) |      |        |       |
|--------|----------------|------|--------|-------|
|        | Millimeters    |      | Inches |       |
|        | Min.           | Max. | Min.   | Max.  |
| A      | 0.80           | 1.10 | 0.031  | 0.043 |
| B      | -              | 0.10 | -      | 0.004 |
| C      | 0.20           | -    | 0.008  | -     |
| D      | 0.11           | 0.20 | 0.004  | 0.008 |
| E      | 1.15           | 1.35 | 0.045  | 0.053 |
| F      | -              | 0.35 | -      | 0.014 |
| G      | 1.60           | 1.80 | 0.063  | 0.071 |
| H      | 2.40           | 2.60 | 0.094  | 0.102 |

Packaging

| Tape |  | Symbol            | Dimension (mm) |
|------|--|-------------------|----------------|
|      |  | W                 | 8.00±0.30      |
|      |  | P0                | 4.00±0.10      |
|      |  | P1                | 4.00±0.10      |
|      |  | P2                | 2.00±0.10      |
|      |  | D0                | Φ1.55±0.10     |
|      |  | D1                | Φ1.00±0.05     |
|      |  | E                 | 1.75±0.10      |
|      |  | F                 | 3.50±0.10      |
|      |  | A                 | 1.48±0.10      |
|      |  | A0                | 0.80±0.10      |
|      |  | B                 | 3.00±0.10      |
|      |  | B0                | 1.80±0.10      |
|      |  | K                 | 1.05±0.10      |
|      |  | t                 | 0.25±0.05      |
|      |  | Reel              |                |
|      |  | D2                | Φ13.00.        |
|      |  | W1                | 9.50           |
|      |  | Quantity: 3000PCS |                |

单击下面可查看定价，库存，交付和生命周期等信息

[>>Brightking\(君耀电子\)](#)