

DATA SHEET

**ELECTROSTATIC DISCHARGE
PROTECTION DEVICES**

INDUSTRIAL / CONSUMER

SHD8C4.5L01

RoHS compliant & Halogen free



Product specification – March 20, 2021 V.2



Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The SHD8C4.5L01 of Transient Voltage Suppressors is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.

It offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs.

It is designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning, electrical fast transients (EFT), and cable discharge events (CDE).

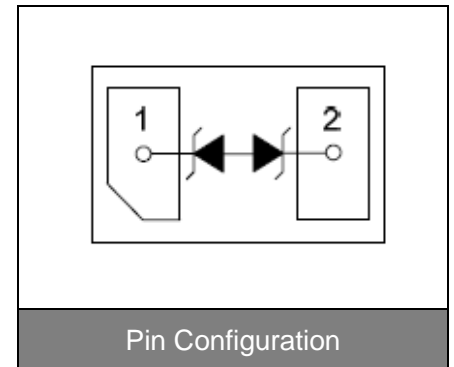


Contact : $\pm 30\text{kV}$
Air : $\pm 30\text{kV}$



Features

- IEC61000-4-2 ESD 30KV Air, 30KV contact compliance
- SOD-882 surface mount package
- Working voltage: 4.5V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: E3



Applications

- Cellular Handsets & Accessories
- Notebooks & Handhelds
- Digital Cameras
- Personal Digital Assistants (PDAs)
- Portable Instrumentation
- MP3 Players

Maximum Ratings

| Rating | Symbol | Value | Unit |
|---------------------------------------|--------------------------------|----------|------|
| ESD voltage (Contact discharge) | V_{ESD} | ± 30 | kV |
| ESD voltage (Air discharge) | | ± 30 | |
| Storage & operating temperature range | $T_{\text{STG}}, T_{\text{J}}$ | -55~+150 | °C |

Electrical Characteristics (T_J=25°C)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------------|------------------|----------------------|------|------|------|------|
| Reverse stand-off voltage | V _{RWM} | | | | 4.5 | V |
| Reverse breakdown voltage | V _{BR} | I _{BR} =1mA | 4.6 | | | V |
| Reverse leakage current | I _R | V _R =4.5V | | | 1 | μA |
| Clamping voltage (tp=8/20μs) | V _C | I _{PP} =40A | | 20 | | V |
| Peak pulse current (tp=8/20μs) | I _{PP} | | | | 40 | A |
| Off state junction capacitance | C _J | 0Vdc,f=1MHz | | 80 | | pF |

Typical Characteristics Curves

Figure 1. Pulse Waveforms

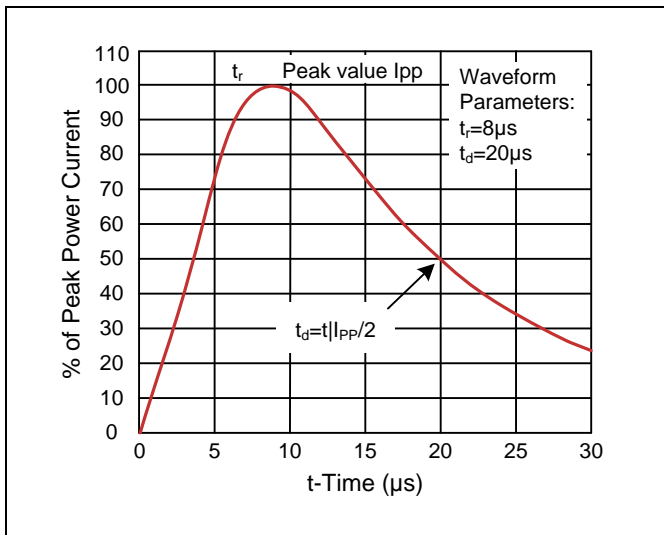


Figure 2. Clamping Voltage vs. Peak Pulse Current

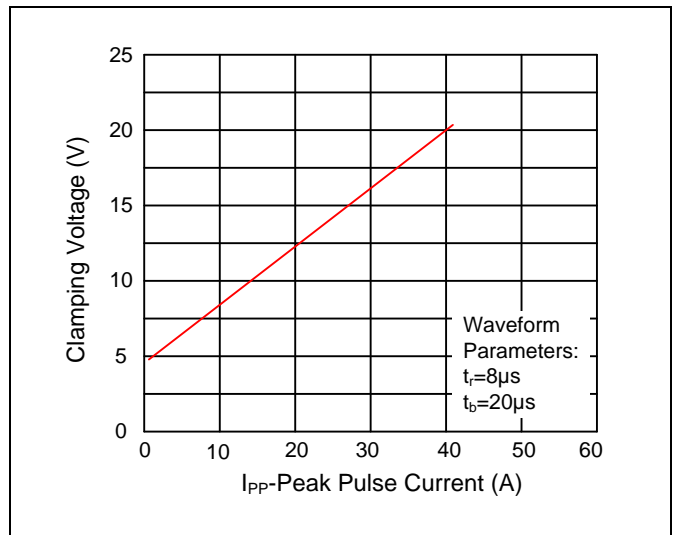


Figure 3. Capacitance vs. Reverse Voltage

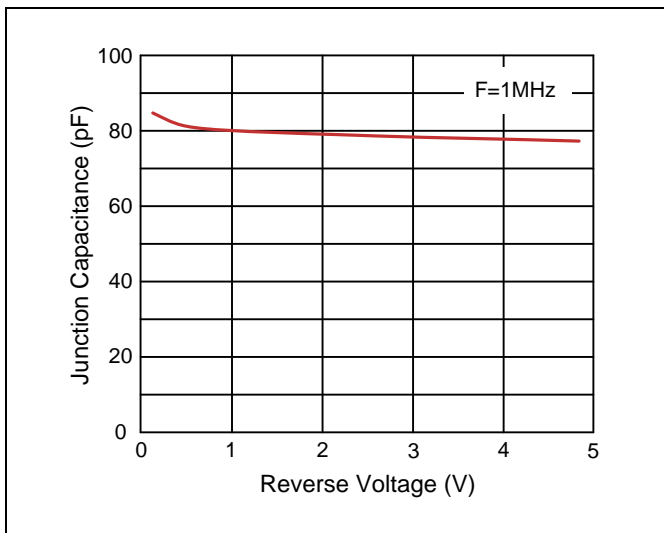
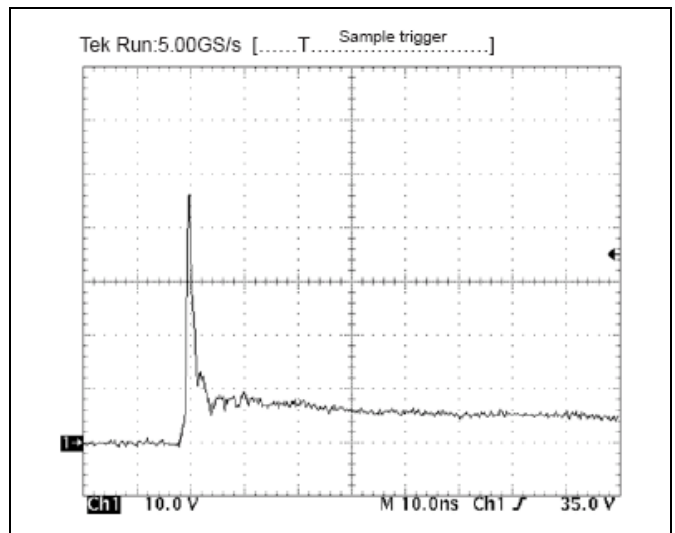
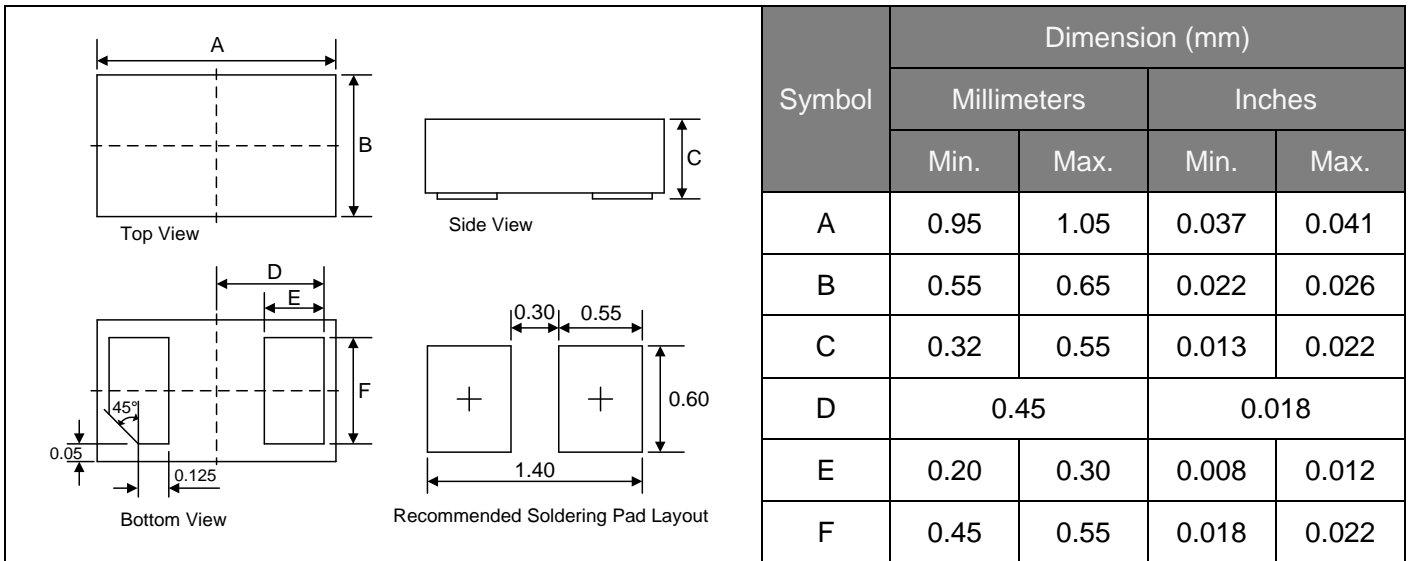


Figure 4. ESD Clamping(8kV Contact IEC61000-4-2)



Dimensions (SOD882)



Packaging

