

Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

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

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

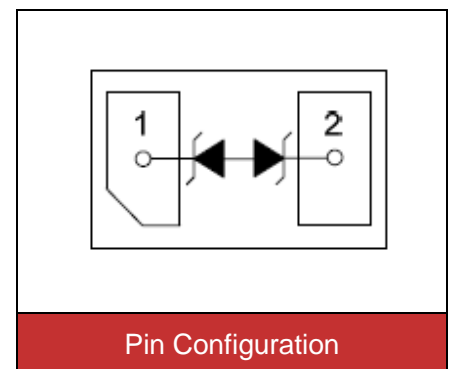


Contact : ±30kV
Air : ±30kV



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

- | | |
|---|---|
| <ul style="list-style-type: none"> ● Cellular Handsets & Accessories ● Notebooks & Handhelds ● Digital Cameras | <ul style="list-style-type: none"> ● Personal Digital Assistants (PDAs) ● Portable Instrumentation ● MP3 Players |
|---|---|

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse current (tp=8/20µs)	I_{PP}	40	A
ESD voltage (Contact discharge)	V_{ESD}	±30	kV
ESD voltage (Air discharge)		±30	
Storage & operating temperature range	T_{STG}, T_J	-55~+150	°C

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				4.5	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1\text{mA}$	4.6			V
Reverse leakage current	I_R	$V_R=4.5\text{V}$			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=40\text{A}$		20		V
Off state junction capacitance	C_J	0Vdc, $f=1\text{MHz}$		80		pF

Typical Characteristics Curves

Figure 1. Pulse Waveforms

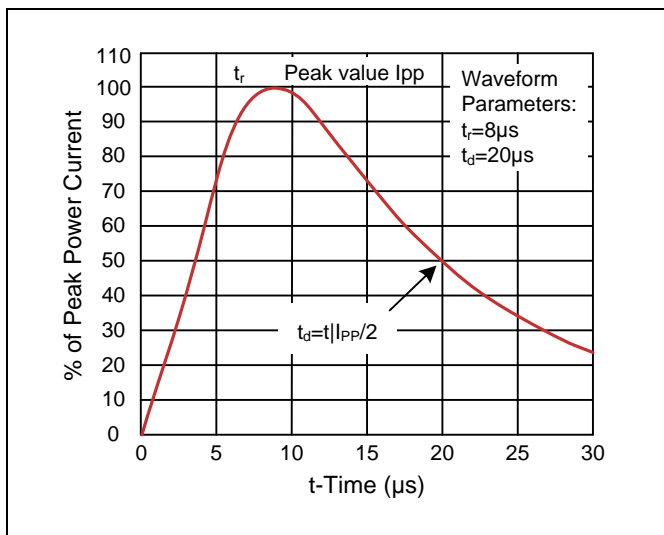


Figure 2. Clamping Voltage vs. Peak Pulse Current

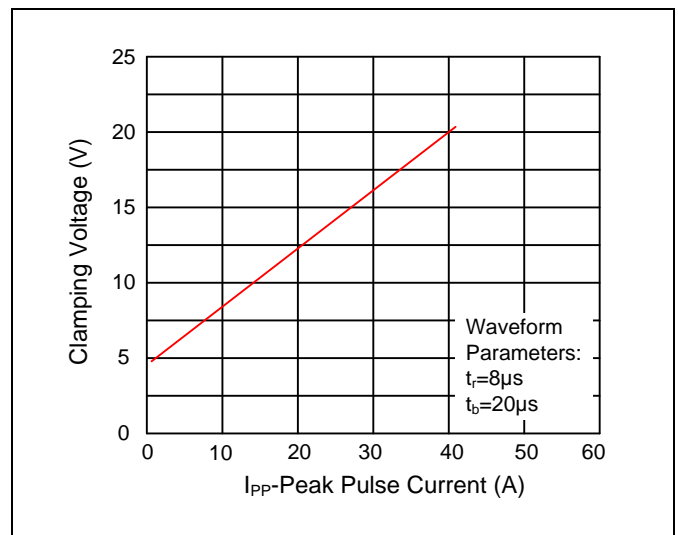


Figure 3. Capacitance vs. Reverse Voltage

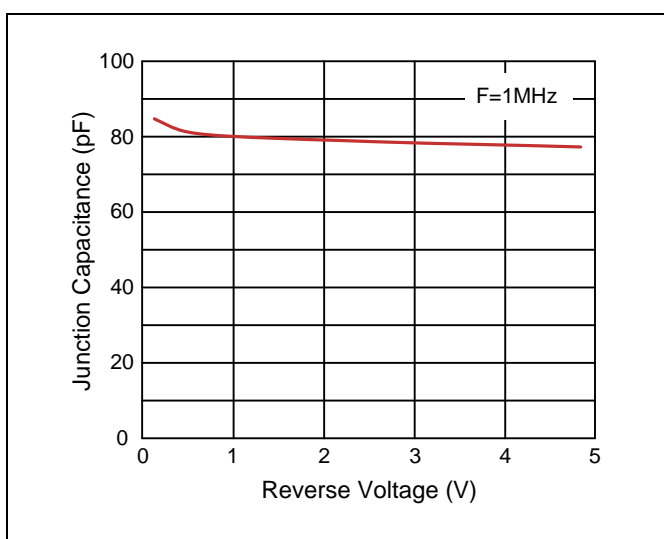
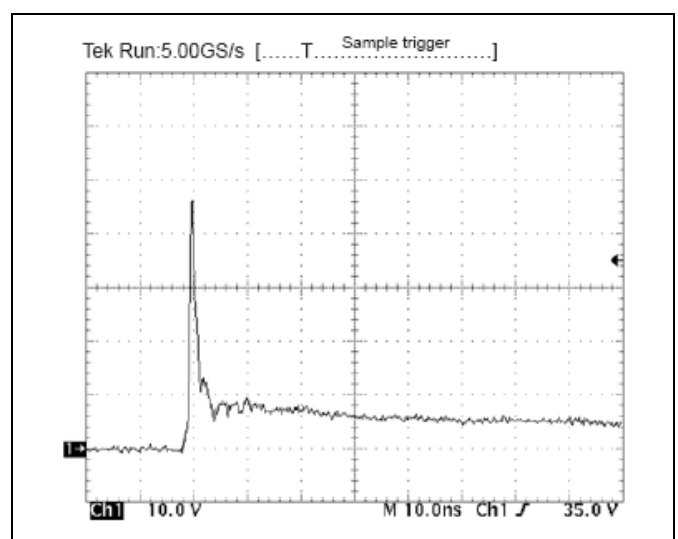


Figure 4. ESD Clamping(8kV Contact IEC61000-4-2)



Dimensions (SOD882)

	Dimension (mm)				
	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	0.95	1.05	0.037	0.041
B	0.55	0.65	0.022	0.026	
C	0.32	0.55	0.013	0.022	
D	0.45		0.018		
E	0.20	0.30	0.008	0.012	
F	0.45	0.55	0.018	0.022	

Packaging

<p>Tape</p>	Symbol	Dimension (mm)
	W	8.00±0.30
	P0	4.00±0.10
	P1	2.00±0.10
	P2	2.00±0.10
	D0	Φ1.55±0.10
	D1	Φ0.40±0.05
	E	1.75±0.10
	F	3.50±0.10
	A	0.75±0.10
	B	1.15±0.10
	K	0.60±0.05
	t	0.20±0.05
<p>Reel</p>	D	Φ328.0±2.0
	D2	Φ14.4
	W1	10.0
	Quantity: 10000PCS	