

## Transient Voltage Suppressors for ESD protection

### DESCRIPTION

The SLPESD3V3S1BA-N 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.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).


### FEATURES

- ✧ IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (Air),  $\pm 30\text{kV}$  (Contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ Peak power dissipation: 60W (8/20 $\mu\text{s}$ )
- ✧ Protects one I/O line
- ✧ Low clamping voltage
- ✧ Working voltages : 3.3V
- ✧ Low leakage current

### MACHANICAL DATA

- ✧ SOD-523 package
- ✧ Flammability Rating: UL 94V-0
- ✧ High temperature soldering guaranteed: 260°C/10s
- ✧ Packaging: Tape and Reel
- ✧ Reel size: 7 inch

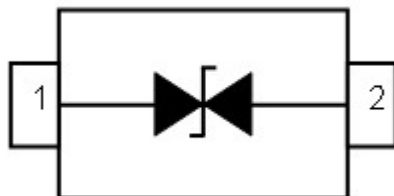
### ORDERING INFORMATION

- ✧ Device: SLPESD3V3S1BA-N
- ✧ Package: SOD-523
- ✧ Marking: **3C** 
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

### APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Microprocessor based equipment
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Networking and Telecom
- ✧ Serial and Parallel Ports
- ✧ Peripherals

### PIN CONFIGURATION



### PACKAGE OUTLINE





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### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Air)	$\pm 30$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	60	W
$T_{OPT}$	Operating Temperature	-40~150	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-40~150	$^{\circ}$ C

### ELECTRICAL CHARACTERISTICS (Tamb=25 $^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				3.3	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	3.6			V
$I_R$	Reverse Leakage Current	$V_{RWM} = 3.3V$			1.0	$\mu$ A
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			6.5	V
$V_C$	Clamping Voltage	$I_{PPmax} = 5A, t_p = 8/20\mu s$			12.0	V
$V_{CTLTP}$	TLP Clamping Voltage	$I_{PP} = 16A$ IEC61000-4-2 Level 4 equivalent ( $\pm 8kV$ Contact, $\pm 15kV$ Air)		9		V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$			16.5	pF

## ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 $\mu$ s Waveform per IEC61000-4-5

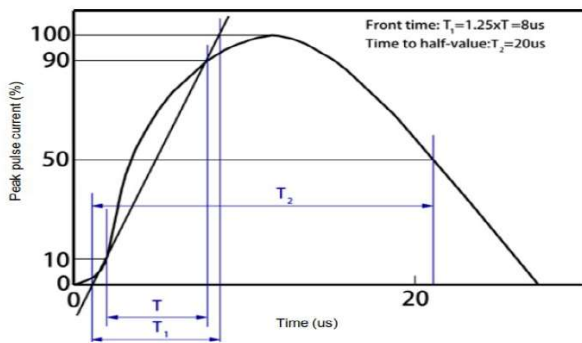


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

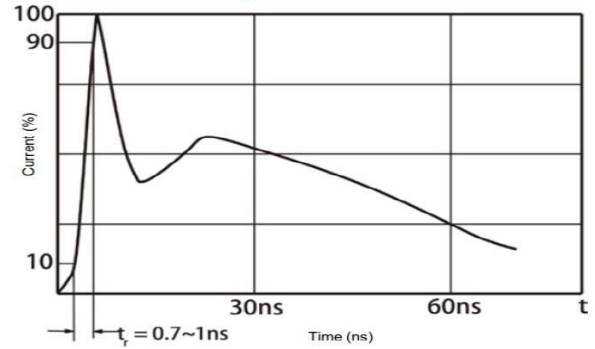


Fig 3 Power Derating Curve

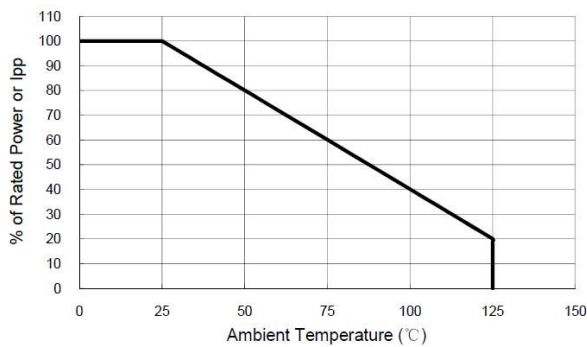


Fig 4 Voltage vs Capacitance

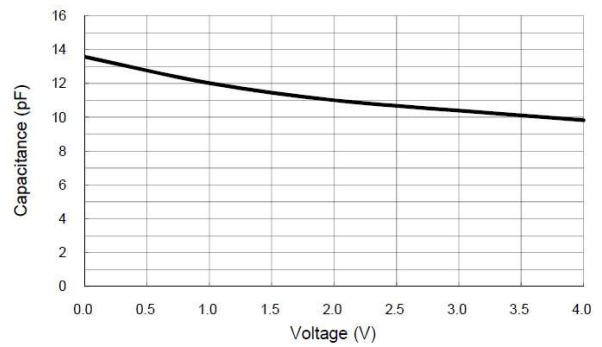


Fig 5 Transmission Line Pulsing (TLP) Measurement

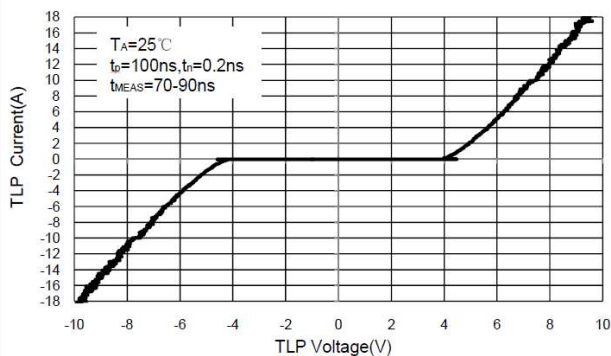
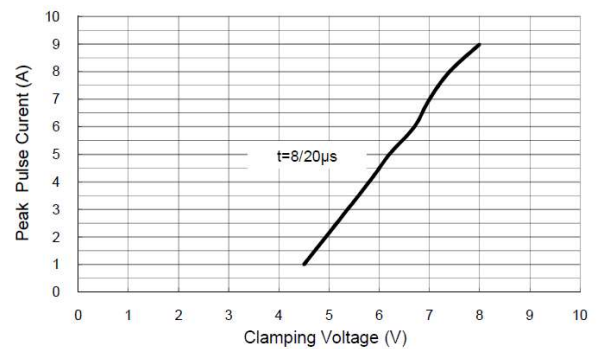
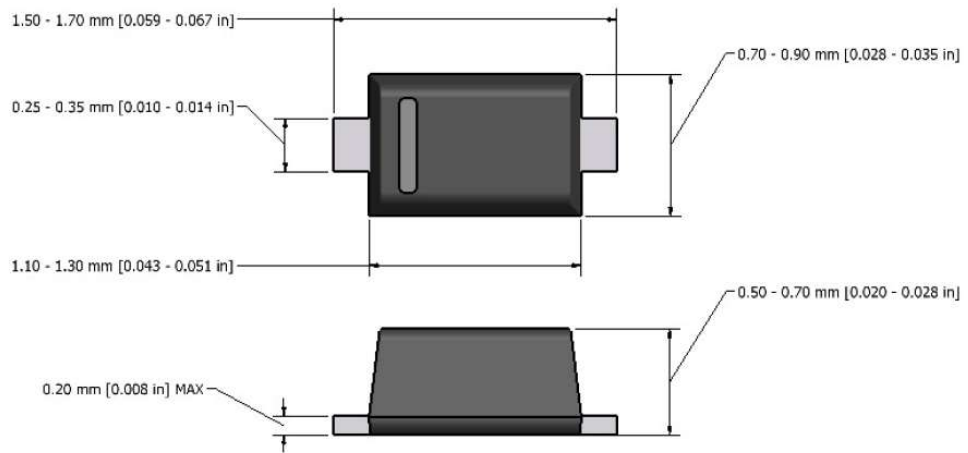


Fig 6 Clamping Voltage vs Peak Pulse Current



## SOD-523 PACKAGE OUTLINE DIMENSIONS



**Note:** Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.