



# ESD5Z5.0C\_H

## Transient Voltage Suppressors

### DESCRIPTION

The LESD5Z5.0C\_H 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)  $\pm 30\text{kV}$  (Contact),  $\pm 30\text{kV}$  (Air)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ Peak power dissipation: 75W (8/20 $\mu\text{s}$ )
- ✧ Protects one I/O line
- ✧ Low clamping voltage
- ✧ Working voltages : 5V
- ✧ Low leakage current

### MACHANICAL DATA

- ✧ SOD-523 package
- ✧ Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- ✧ Packaging: Tape and Reel
- ✧ Reel size: 7 inch
- ✧ MSL3

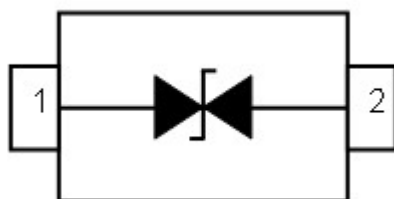
### ORDERING INFORMATION

- ✧ Device: ESD5Z5.0C\_H
- ✧ Package: SOD-523
- ✧ Marking: 5C $\infty$
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

### APPLICATIONS

- ✧ High Speed Line :USB1.0/2.0, VGA, DVI, SDI,
- ✧ Serial and Parallel Ports
- ✧ Notebooks, Desktops, Servers
- ✧ Projection TV
- ✧ Cellular handsets and accessories
- ✧ Portable instrumentation
- ✧ Peripherals

### PIN CONFIGURATION



### PACKAGE OUTLINE



**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)	75	W
$T_{OPT}$	Operating Temperature	-40~150	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-40~150	$^{\circ}$ C

**ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}$ C)**

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				5.0	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	5.6		9.0	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 5\text{V}$			1.0	$\mu$ A
$V_C$	Clamping Voltage	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			9.5	V
$V_C$	Clamping Voltage	$I_{PPmax} = 5\text{A}, t_p = 8/20\mu\text{s}$			15.0	V
$C_J$	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$			15	pF



ELECTRICAL CHARACTERISTICS CURVE

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

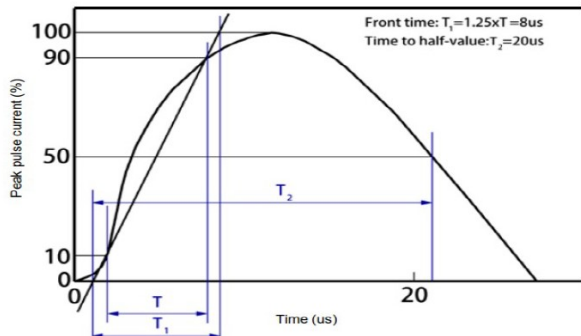


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2

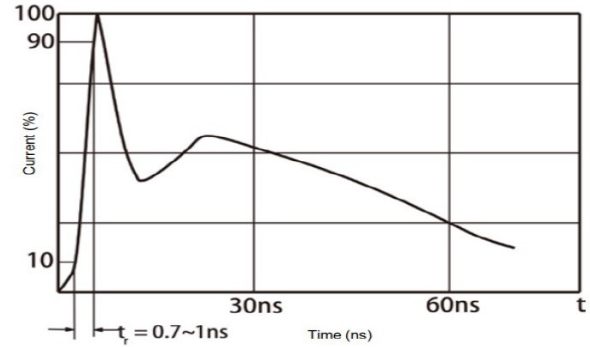


Fig 3 Power Derating Curve

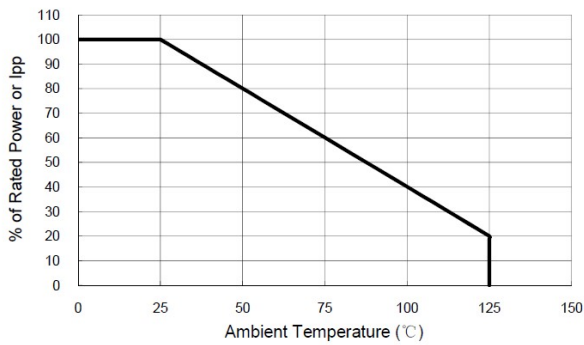


Fig 4 Voltage vs Capacitance

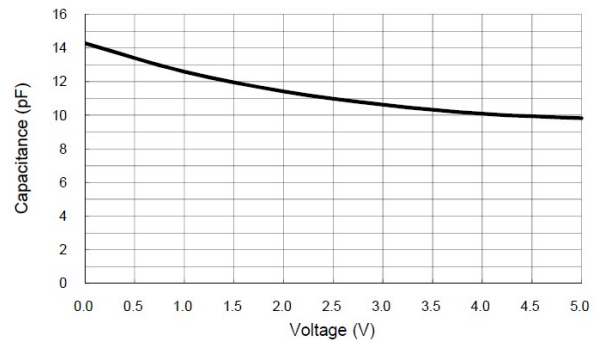


Fig 5 Transmission Line Pulsing (TLP) Measurement

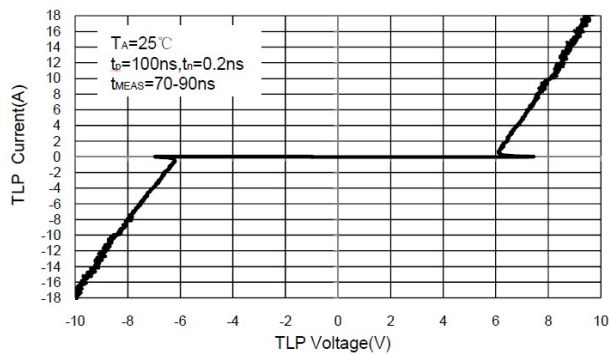
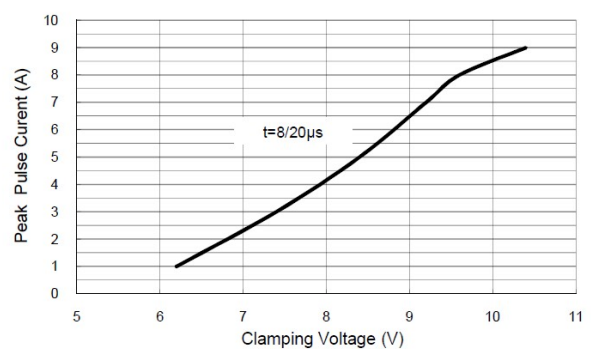
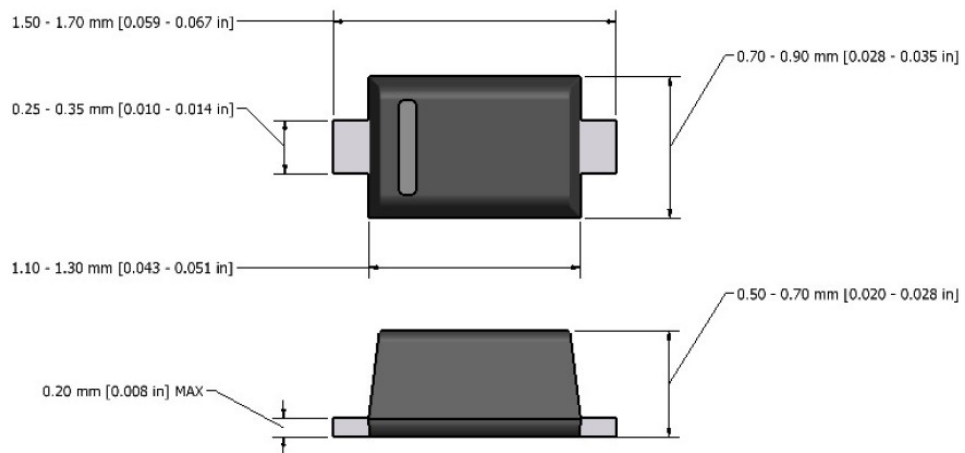


Fig 6 Clamping Voltage vs Peak Pulse Current





### SOD-523 PACKAGE OUTLINE DIMENSIONS



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

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