



# LESD5Z5.0C

## Transient Voltage Suppressors for ESD protection

### SOD-523 Plastic-Encapsulate ESD Protection Diodes

#### DESCRIPTION

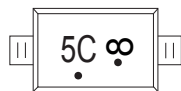
The LESD5Z5.0C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

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

- ◆ Peak Power Dissipation 128 W (8/20µs)
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ Protects one directional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 5V
- ◆ Low leakage current
- ◆ Meets MSL 1 Requirements

#### Marking



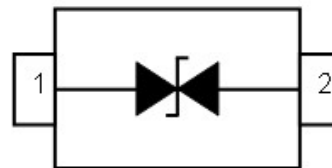
#### Applications

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

#### Pin Configuration



#### Circuit Diagram



#### Mechanical Characteristics

- ◆ Package: SOD-523
- ◆ Terminals: Gold plated, solderable per MIL-STD-750, method 2026
- ◆ Packaging: Tape and Reel
- ◆ Reel size: 7 inch

#### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Peak Pulse Power(tp=8/20us waveform)	P <sub>PP</sub>	128	W
Operating Temperature	T <sub>OPT</sub>	-40 to +150	°C
Storage Temperature	T <sub>STG</sub>	-40 to +150	°C

The above data are for reference only.



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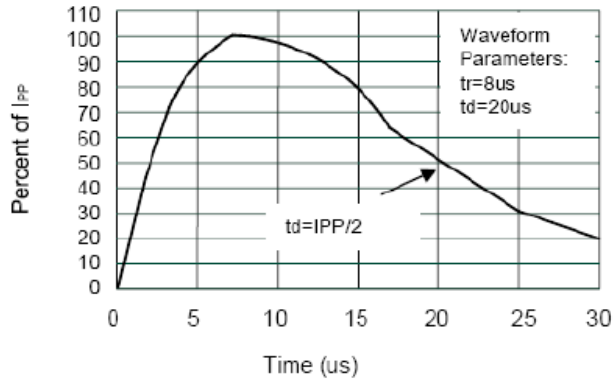
### Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Param	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	$\mu\text{A}$
$V_C$	Clamping Voltage	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$			11.6	V
		$I_{PP} = 8\text{A}, t_p = 8/20\mu\text{s}$			16.0	V
$C_J$	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		10	15	pF

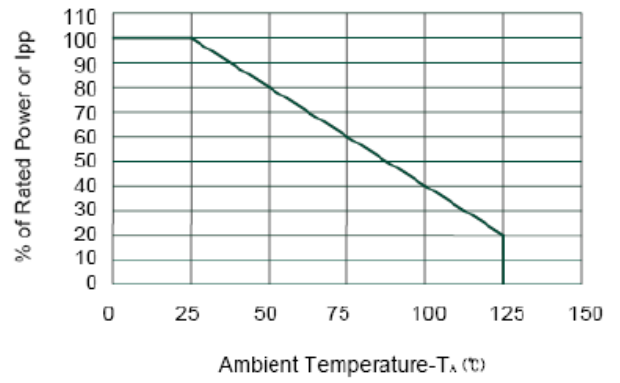
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### ELECTRICAL CHARACTERISTICS CURVE



**Pulse Waveform**



**Power Derating Curve**

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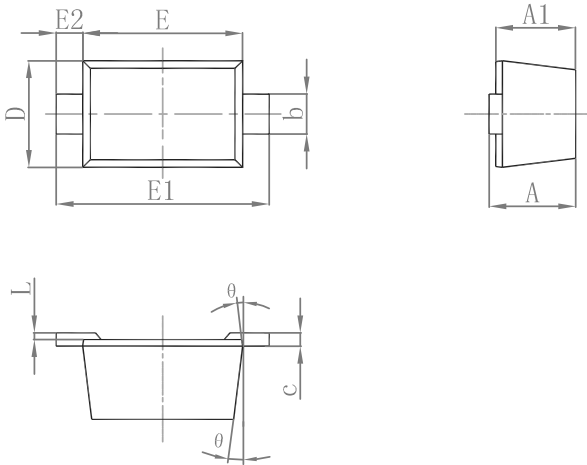


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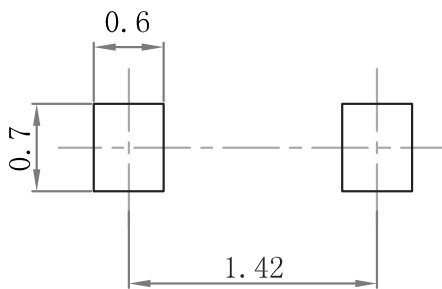
### Outline Drawing

#### SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

### Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-523	7'	178	3000	183×188×80	18000	386×265×215	108000

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