

### Transient Voltage Suppressors for ESD protection

#### DESCRIPTION

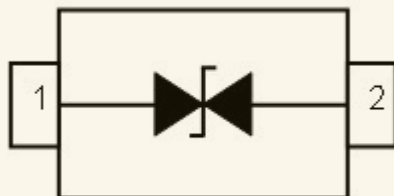
The ESD5Z3.3C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

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).

#### ORDERING INFORMATION

- ✧ Package: SOD-523
- ✧ Marking: 5 or AB
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

#### PIN CONFIGURATION



#### 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: 60W (8/20 $\mu\text{s}$ )
- ✧ Protects one I/O line
- ✧ Low clamping voltage
- ✧ Working voltages : 3.3V
- ✧ Low leakage current

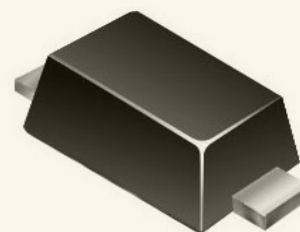
#### MACHANICAL DATA

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

#### 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

#### PACKAGE OUTLINE



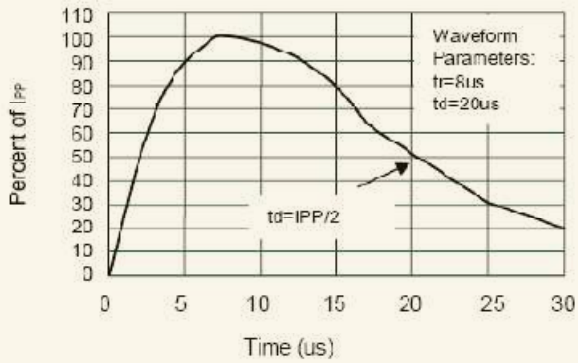
Transient Voltage Suppressors for ESD protection

ABSOLUTE MAXIMUM RATING			
Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	
$P_{PP}$	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

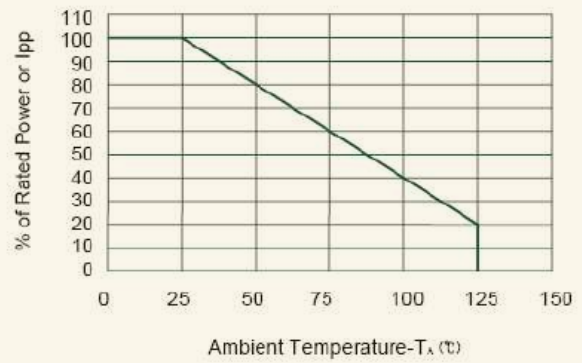
ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}$ C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				3.3	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	3.6			V
$I_R$	Reverse Leakage Current	$V_{RWM} = 3.3V$			1.0	$\mu$ A
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			8.0	V
$V_C$	Clamping Voltage	$I_{PPmax} = 5A, t_p = 8/20\mu s$			12.0	V
$V_{CTL P}$	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

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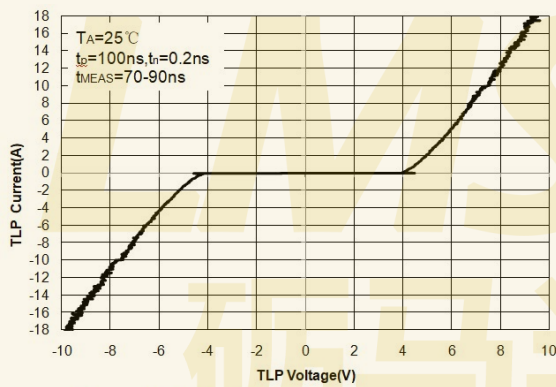
ELECTRICAL CHARACTERISTICS CURVE



Pulse Waveform

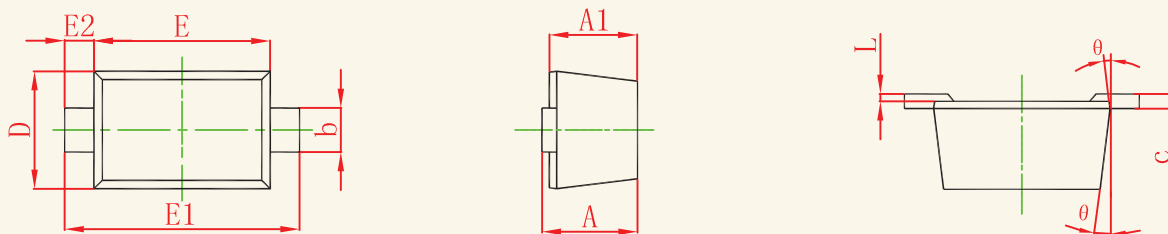


Power Derating Curve



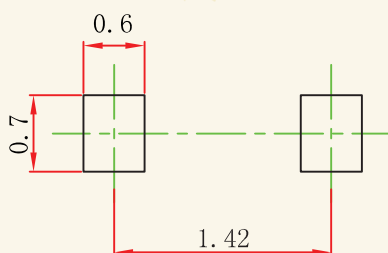
Transmission Line Pulsing (TLP) Measurement

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	

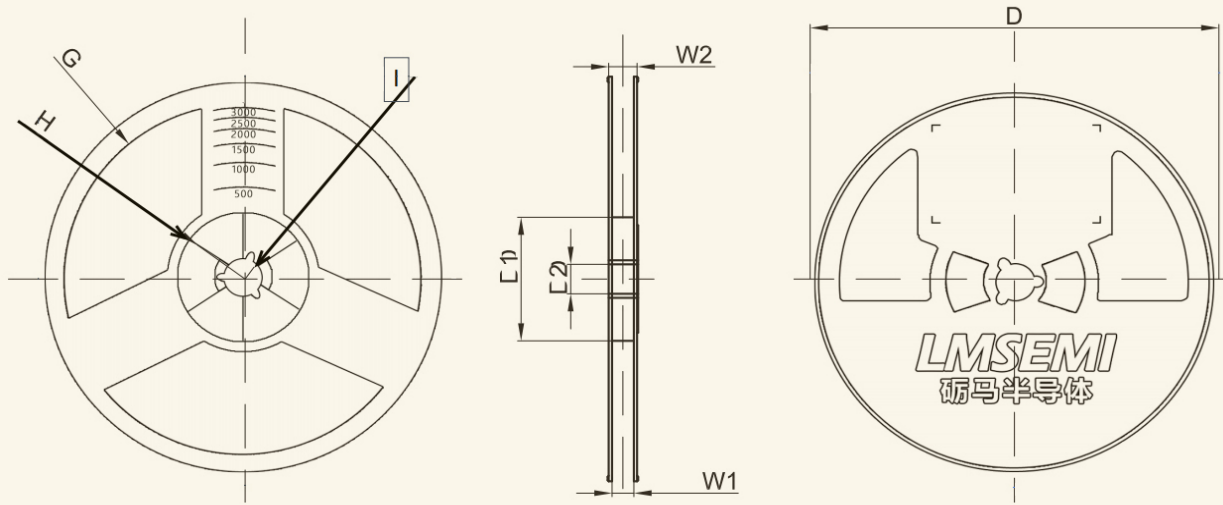
SOD-523 Suggested Pad Layout



Note:

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

SOD-523 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	183×126×183	180,000 pcs	395×380×200	

砺马半导体

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