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SEMICONDUCTOR



ESD



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Product data sheet

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SOD-523

Marking: LB

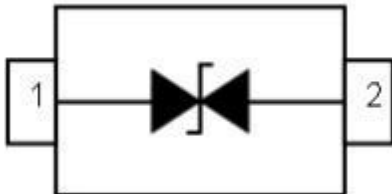
## FEATURES

- ✦ IEC61000-4-2 (ESD)  $\pm 8\text{kV}$  (Contact),  $\pm 15\text{kV}$  (Air)
- ✦ Peak power dissipation:  $35\text{W}$  ( $8/20\mu\text{s}$ )
- ✦ Protects one I/O line
- ✦ Low clamping voltage
- ✦ Working voltage:  $5\text{V}$
- ✦ Low leakage current
- ✦ Low capacitance

## MACHANICAL DATA

- ✦ SOD-523 package
- ✦ Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- ✦ Packaging: Tape and Reel
- ✦ Reel size: 7 inch
- ✦ Weight:  $0.0018$  gram (approx.)

## PIN CONFIGURATION



## 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

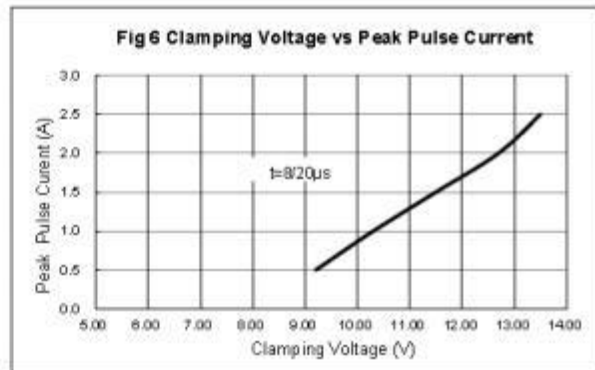
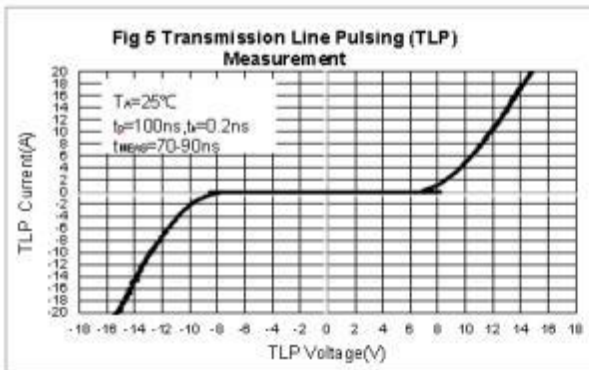
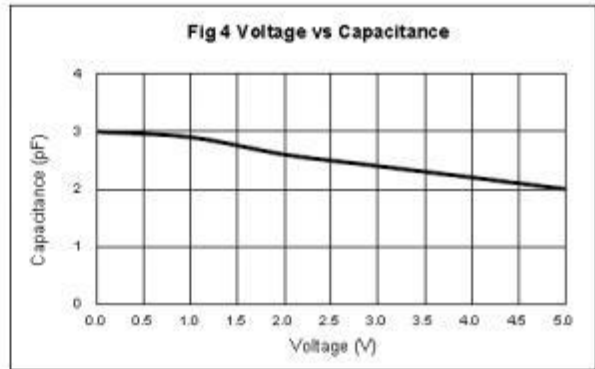
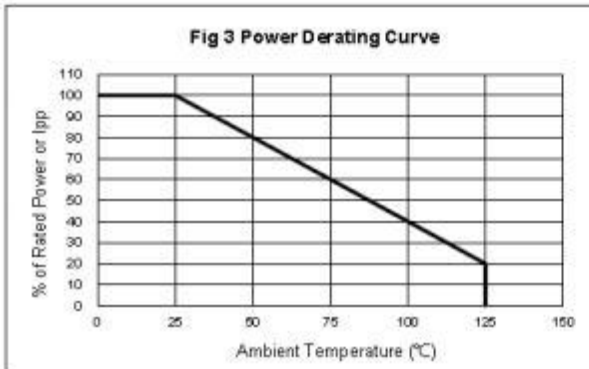
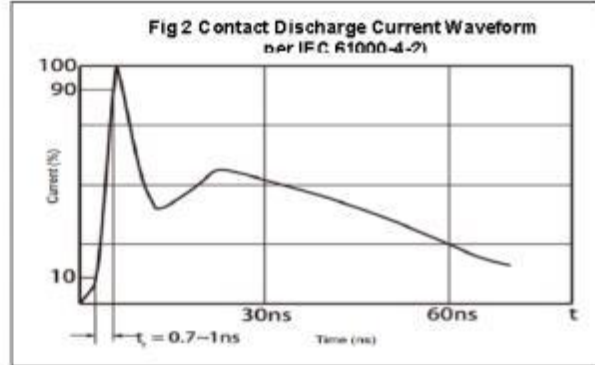
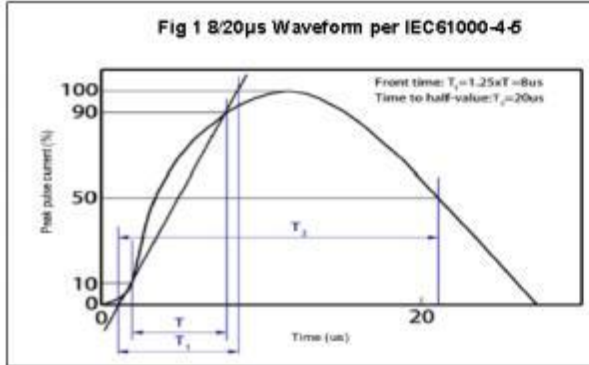
**ABSOLUTE MAXIMUM RATING**

Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±8 ±15	kV
P <sub>PP</sub>	Peak Pulse Power (8/20μs)	35	W
T <sub>OPT</sub>	Operating Temperature	-55~150	°C
T <sub>STG</sub>	Storage Temperature	-55~150	°C

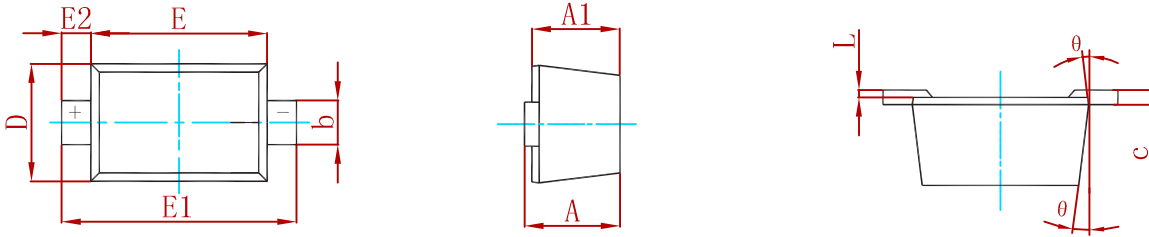
**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C)**

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage				5.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	5.6		9.4	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V			2.0	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs			10.5	V
		I <sub>PP</sub> = 2A, t <sub>p</sub> = 8/20μs			14.0	V
V <sub>CTLP</sub>	TLP Clamping Voltage	I <sub>PP</sub> = 16A IEC61000-4-2 Level 4 equivalent (±8kV Contact, ±15kV Air)		14.5		V
R <sub>DYN</sub>	Dynamic Resistance	t <sub>p</sub> = 100ns		0.3		Ω
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1MHz		3.0	3.5	pF

ELECTRICAL CHARACTERISTICS CURVE

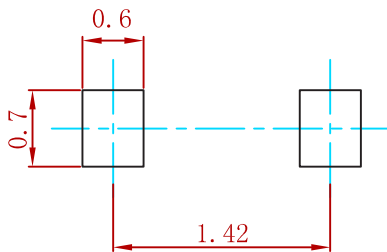


**PACKAGE MECHANICAL DATA**



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: ±0.05mm.  
 3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
ESD5B5CU	SOD-523	3000

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