

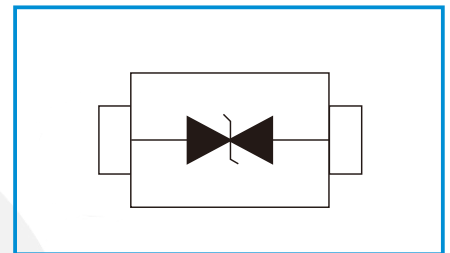
Low Capacitance Bi-directional TVS/ESD Protection Diode

Features

- IEC61000-4-2 (ESD) $\pm 8\text{kV}$ (Contact),
 $\pm 15\text{kV}$ (Air)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 40W (8/20 μs)
- Protects one I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current
- Low capacitance



Functional Diagram



Mechanical Data

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

Applications

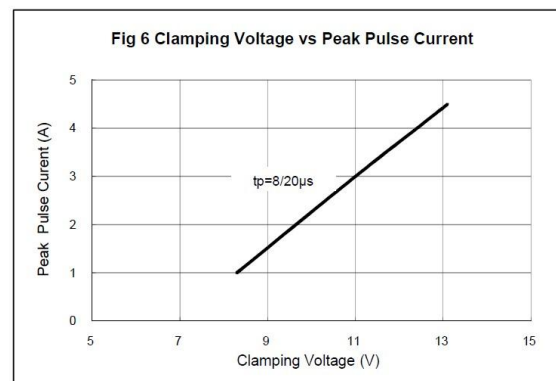
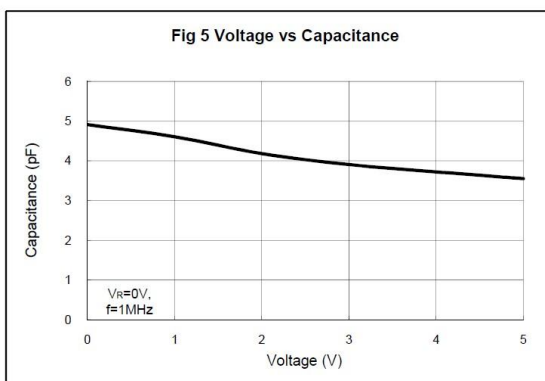
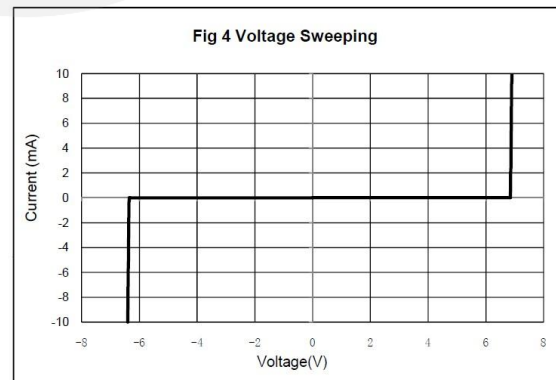
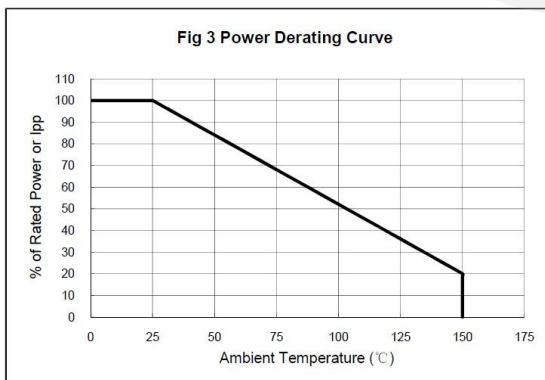
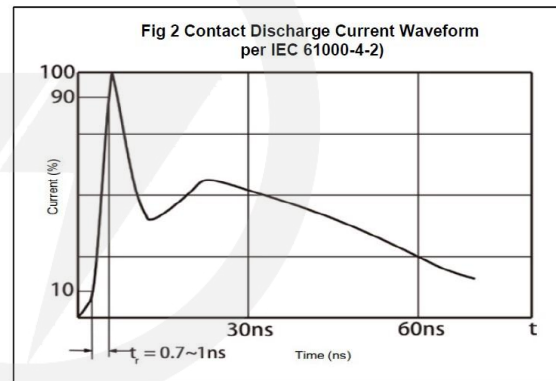
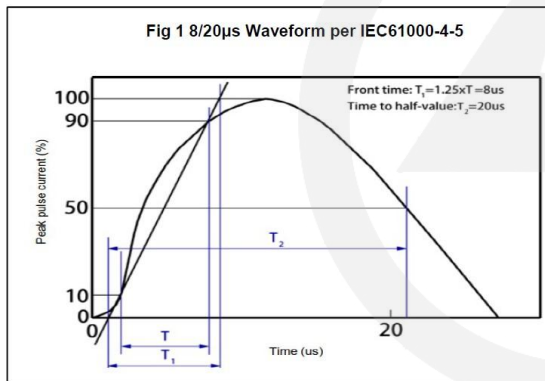
- High Speed Line :USB1.0/2.0, VGA, DVI, SDI,
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 8 ± 15	kV
P _{PP}	Peak Pulse Power (8/20 μs)	40	W
T _{OPT}	Operating Temperature	-55~150	°C
T _{STG}	Storage Temperature	-55~150	°C

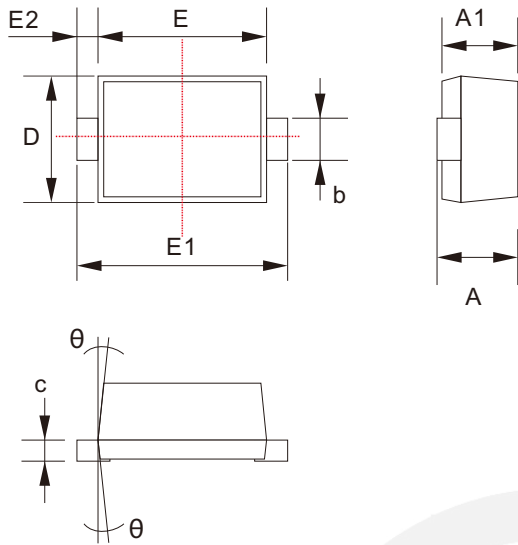
Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V _{RWM}	Reverse Working Voltage				5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	5.2		8.0	V
I _R	Reverse Leakage Current	V _{RWM} = 5V			2.0	μA
V _C	Clamping Voltage	I _{PP} = 1A, t _p = 8/20μs			9	V
C _J	Junction Capacitance	V _R = 0V, f = 1MHz		4.5	6	pF

Characteristic Curves


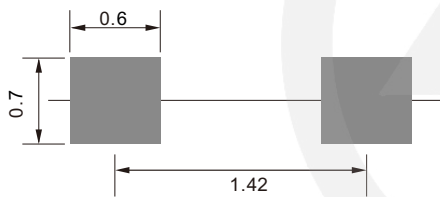
SOD-523 Package Outline

Unit: mm



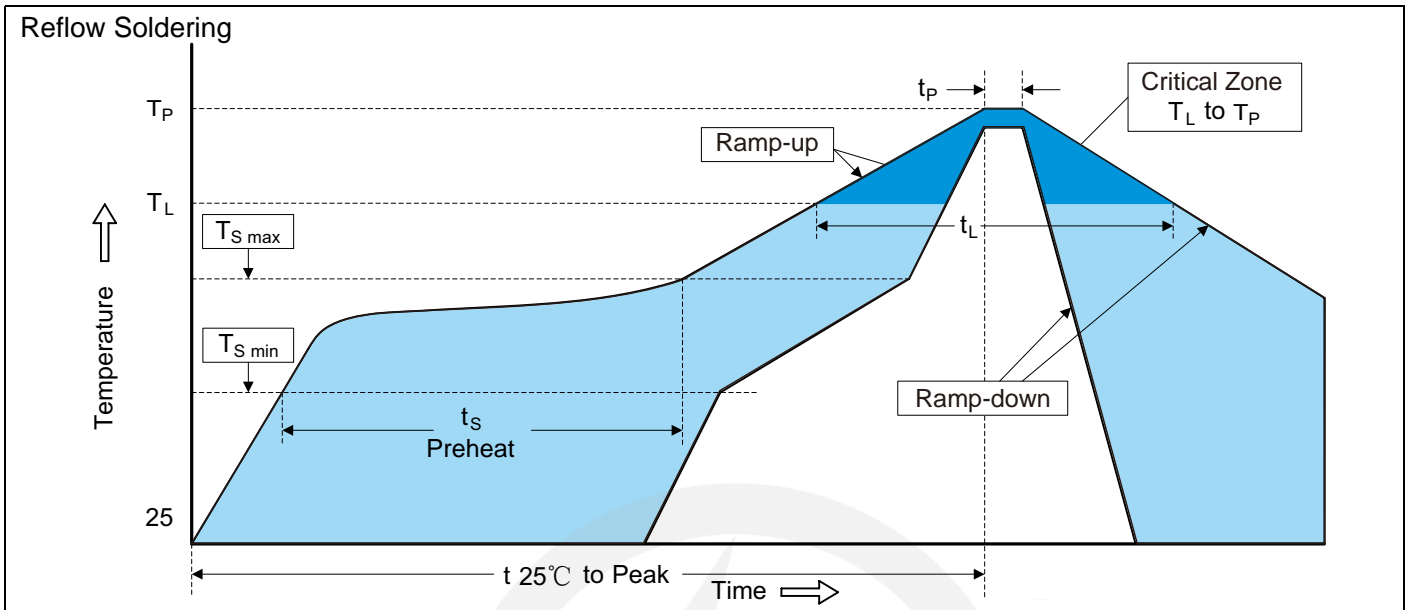
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.500	0.770
A1	0.500	0.700
b	0.250	0.380
c	0.070	0.200
D	0.700	0.900
E	1.100	1.300
E1	1.500	1.700
E2	0.200 REF	
θ	7° REF	

Recommended Solder Pad Footprint



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

Recommended Soldering Conditions

Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

7" Reel


D2	$\Phi 178.0 \pm 2.0$
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D3	$\Phi 50.0 \text{ Min.}$
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D4	$\Phi 13.0 \pm 0.5$
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W1	16.0 ± 2.0
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Quantity: 3000PCS