

## Features

- Protects one data or power line
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

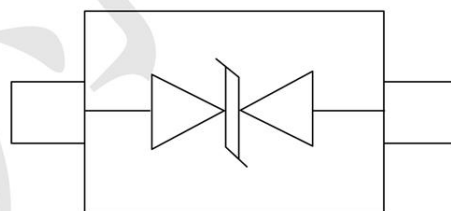
## Mechanical Characteristics

- Package: SOD-523
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :3000pcs/7InchTape & Reel

## Applications

- Cellular Handsets & Accessories
- Digital Visual Interface (DVI)
- Display Port
- MDDI Ports
- USB Ports
- PCI Express
- Serial ATA

## Dimensions and Pin Configuration



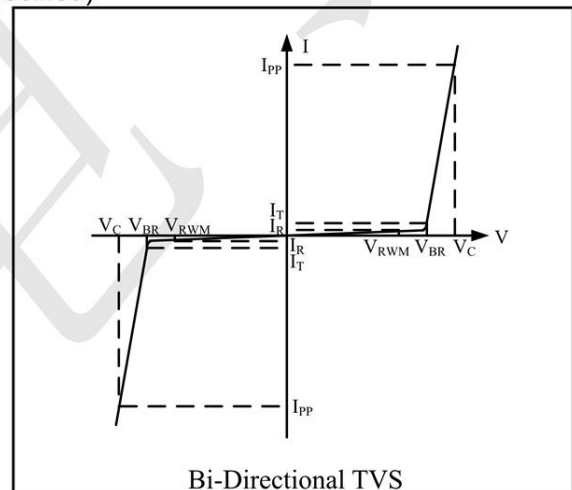
Marking: B5

**Absolute Maximum Ratings** ( $T_{amb}=25^{\circ}C$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu$ s)	Ppk	80	W
Peak Pulse Current (8/20 $\mu$ s)	I <sub>PP</sub>	8	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	$^{\circ}C$
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	$^{\circ}C$

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

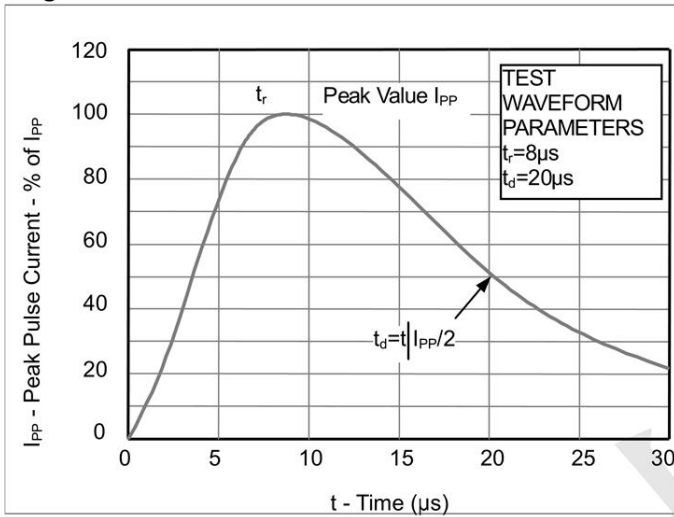
Symbol	Parameter
V <sub>RWM</sub>	Nominal Reverse Working Voltage
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Reverse Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current for Reverse Breakdown
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>PP</sub>	Maximum Peak Pulse Current
C <sub>ESD</sub>	Parasitic Capacitance
V <sub>R</sub>	Reverse Voltage
f	Small Signal Frequency



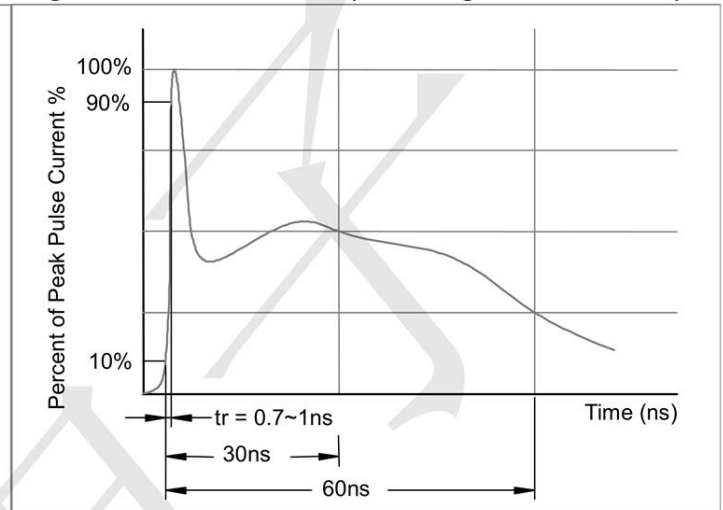
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	
Breakdown Voltage	V <sub>BR</sub>	6		8	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			0.2	$\mu$ A	V <sub>RWM</sub> = 5V
Clamping Voltage	V <sub>C</sub>			8	V	I <sub>PP</sub> = 1A
Clamping Voltage	V <sub>C</sub>			10	V	I <sub>PP</sub> = 8A
Junction Capacitance	C <sub>J</sub>			20	pF	V <sub>R</sub> = 0V, f = 1MHz

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

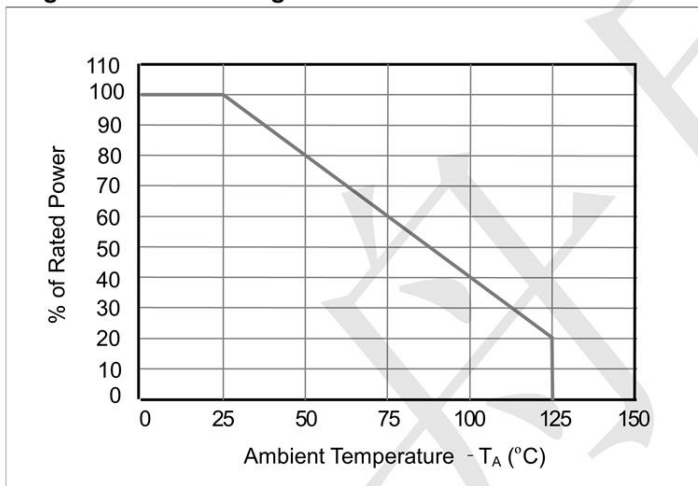
**Fig1. 8/20 $\mu\text{s}$  Pulse Waveform**



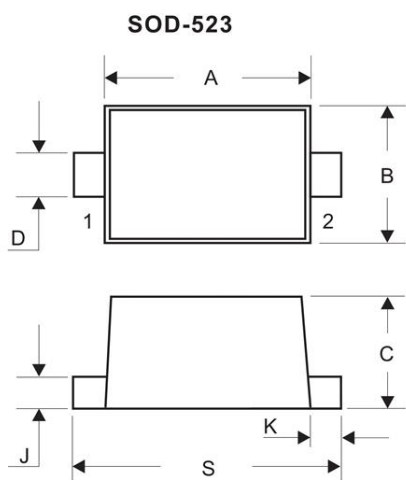
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



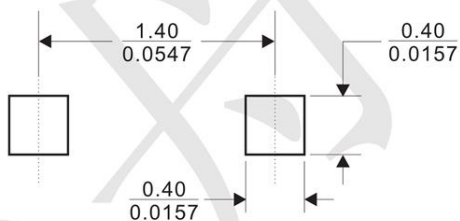
## Outline Drawing - SOD-523



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	1.10	1.30	0.043	0.051
B	0.70	0.90	0.028	0.035
C	0.50	0.70	0.020	0.028
D	0.25	0.35	0.010	0.014
J	0.07	0.20	0.0028	0.0079
K	0.15	0.25	0.006	0.010
S	1.50	1.70	0.059	0.067

## Land Pattern - SOD-523

### Recommended Mounting Pad Layout



Dimensions in (  $\frac{\text{millimeters}}{\text{inches}}$  )