



## Description

Low capacitance bidirectional ElectroStatic Discharge (ESD) protection diode in a ultra-small and flat lead SOD-523 plastic package designed to protect one signal line from the damage caused by ESD and other transients.



SOD-523

## Features

- ★ Ultra Low Capacitance 2.5 pF(Typ)
- ★ Reverse stand-off voltage: 5V Max
- ★ Low leakage current: nA Level
- ★ Response time is typically < 1 ns
- ★ IEC61000-4-2 Level 4 ESD Protection



## Applications

- ★ High- speed data lines
- ★ Smart phones
- ★ Display Ports
- ★ MDDI Ports
- ★ USB Ports
- ★ Digital Video Interface (DVI)
- ★ PCI Express and Serial SATA Ports

Circuit Diagram

## Ordering Information

Product ID	Pack	Qty(PCS)
HBSD5C051L	SOD-523	3000

## Absolute Ratings(Tamb = 25°C)

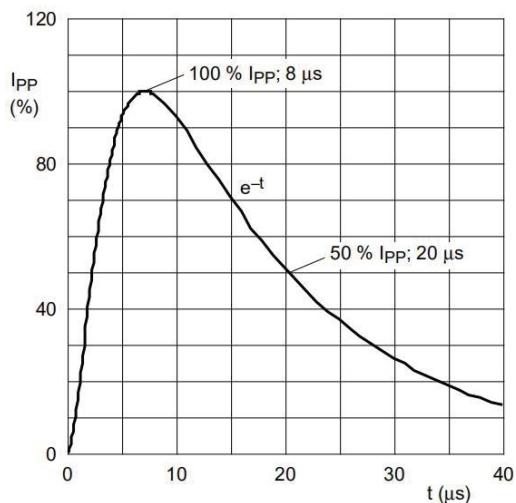
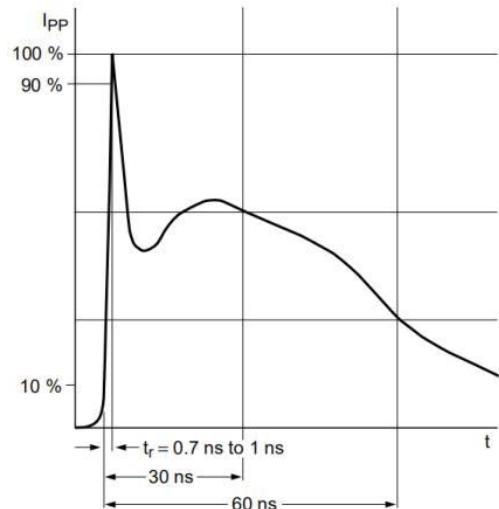
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P <sub>PPM</sub>	30	W
Maximum lead temperature for soldering during 10s	T <sub>L</sub>	260	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C
Operating Temperature Range	T <sub>OP</sub>	-40 to +125	°C
ESD voltage IEC 61000-4-2 (air discharge)	V <sub>ESD</sub>	10	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V <sub>ESD</sub>	15	kV



## Electrical Characteristics

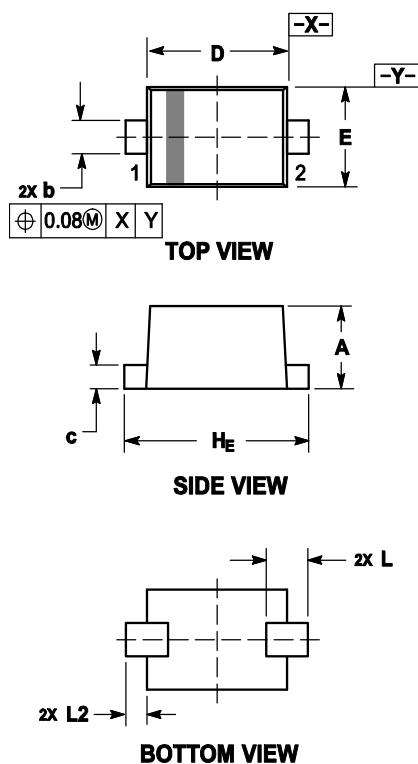
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	$V_{RWM}$	--	--	5.0	V	
Breakdown Voltage	$V_{BR}$	5.4	--	--	V	$I_T=1\text{mA}$
Leakage Current $I_{\text{Leak}}$	$I_R$	--	--	1.0	uA	$V_{RWM}=5\text{V}$
Clamping Voltage	$V_C$	--	--	12.9	V	$I_{PP}=2.5\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance	$C_J$	--	2.5	--	pF	$V_R=0\text{V}, f=1\text{MHz}$

## Typical Characteristics





## Outline And Dimensions

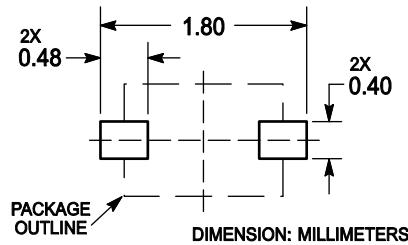


### Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.60	0.70	0.020	0.024	0.028
b	0.25	0.30	0.35	0.010	0.012	0.014
c	0.07	0.14	0.20	0.003	0.006	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
$H_E$	1.50	1.60	1.70	0.059	0.063	0.067
L	0.30 REF			0.012 REF		
$L_2$	0.15	0.20	0.25	0.006	0.008	0.010

## Soldering Footprint





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