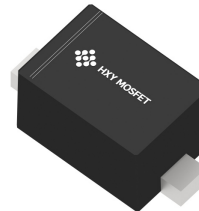




Discription

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 0.35 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)
BSD5C051U	SOD-523	3000

Absolute Ratings(Tamb = 25°C)

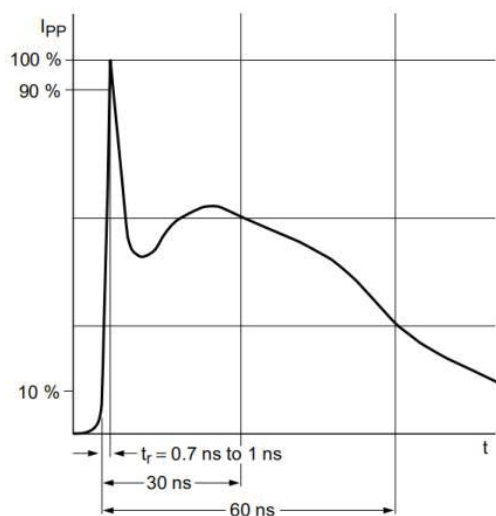
Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20 μ s)	80	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +155	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	±20 ±15 KV



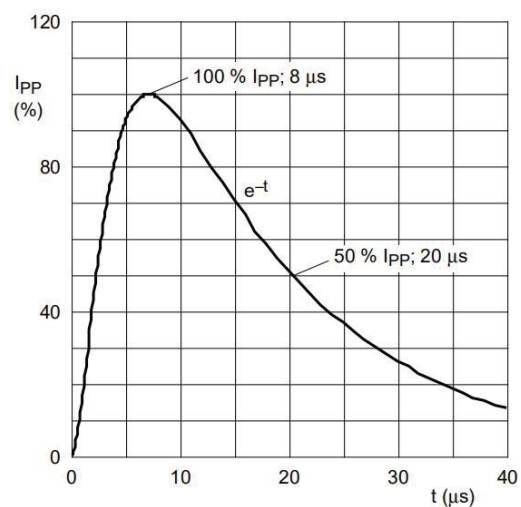
Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	6.5		8.5	V
I_R	Reverse Leakage Current	$V_{RWM} = 5.0V$			100	nA
V_C	Clamping Voltage	$I_{PP} = 4A$, $t_p = 8/20\mu s$			20.0	V
C_J	Junction Capacitance	$V_R = 0V$, $f = 1MHz$		0.35	0.40	pF

Typical Characteristics



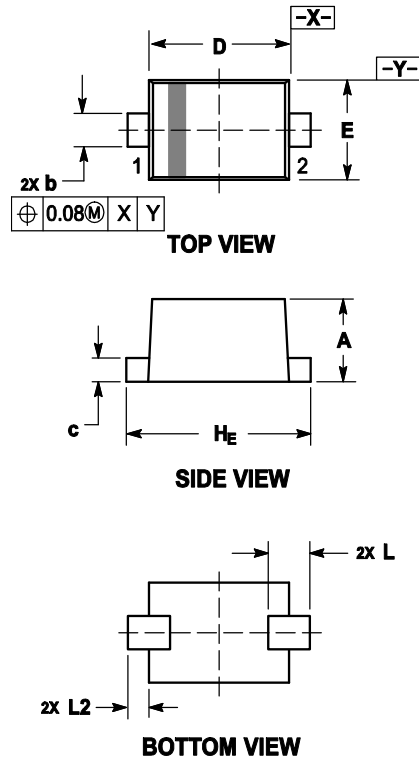
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)



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

Soledering Footprint





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