

## Features

- 350 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Bidirectional Configuration
- Protects One Power or I/O Port
- ESD Protection > 40 kilovolts
- Low Working Voltage: 3.0V
- Low Clamping Voltages
- Ultra Low Capacitance: 1.5 pF Typical



## IEC ComPatibility(EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5(Surge): 20A, 8/20 $\mu s$

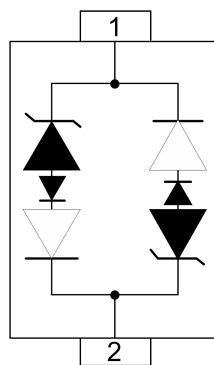
## Mechanical Characteristics

- Molded JEDEC SOD-323 package
- Weight 10 milligrams (Approximate)
- Flammability rating UL 94V-0
- 8mm Tape and Reel Per EIA Standard 481
- Device Marking: Marking Code
- RoHS Compliant

## Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

## Pin Configuration



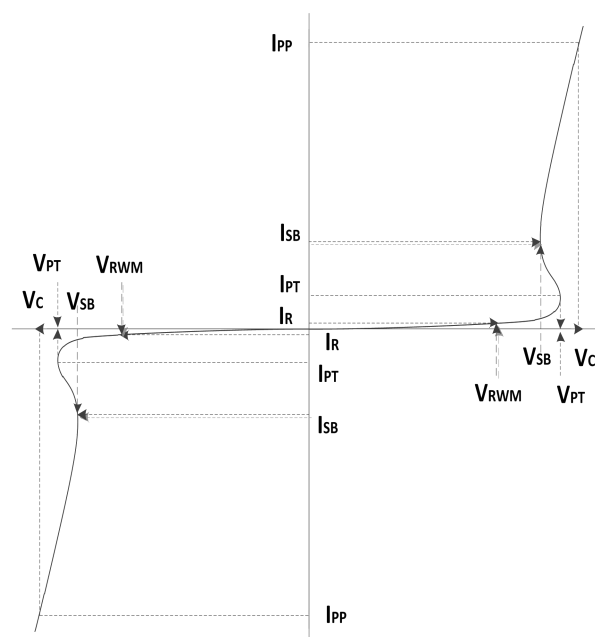
**Bidirectional**

## Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ ) - See Figure 1	$P_{PP}$	350	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )	$I_{PP}$	18	A
Operating Temperature	$T_J$	-55 to + 150	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

## Electrical Parameters

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{PT}$	Punch-through Breakdown Voltage @ $I_T$
$V_{SB}$	Snap-Back Voltage @ $I_{SB}$
$I_{SB}$	Snap-Back Current
$I_{PT}$	Test Current
$V_{PTF}$	Forward Punch-through Breakdown Voltage @ $I_F$
$I_{PTF}$	Forward Test Current



## Electrical characteristics

BSD3C031LX						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$	See Note1			3.0	V
Punch-through Voltage	$V_{PT}$	$I_{PT}=1\mu A$	4.0			V
Snap-Back Voltage	$V_{SB}$	$I_{SB}=50mA$	3.5			V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.0V$			50	nA
Clamping Voltage	$V_C$	$I_{PP} = 18A, t_p = 8/20\mu s$		15	18	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		1.5	2.0	pF

**Note 1:** Part numbers with an additional "B" suffix are bidirectional devices

**Note 2:** For Bidirectional Devices Only: Electrical characteristics apply in both directions.

### Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

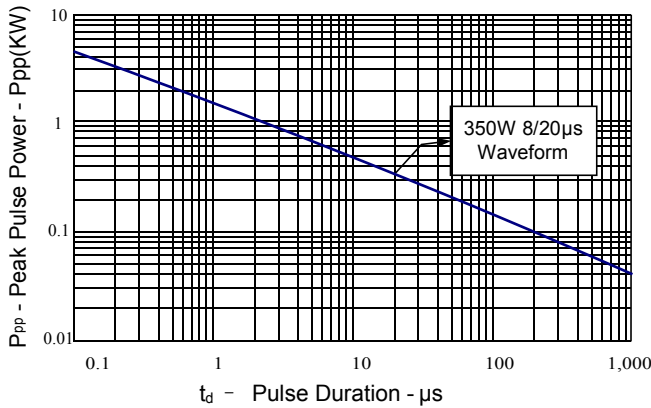


Figure 2: Power Derating Curve

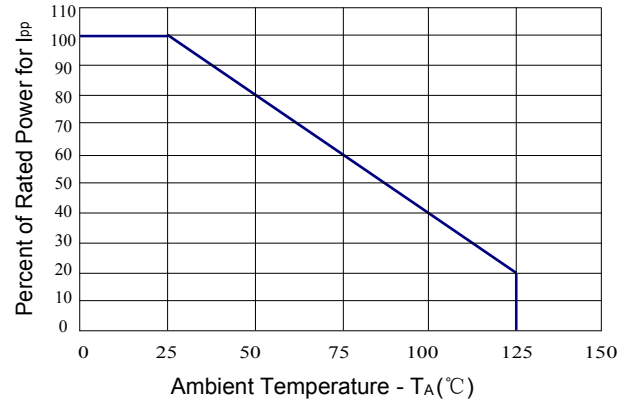


Figure 3: Clamping Voltage vs. Peak Pulse Current

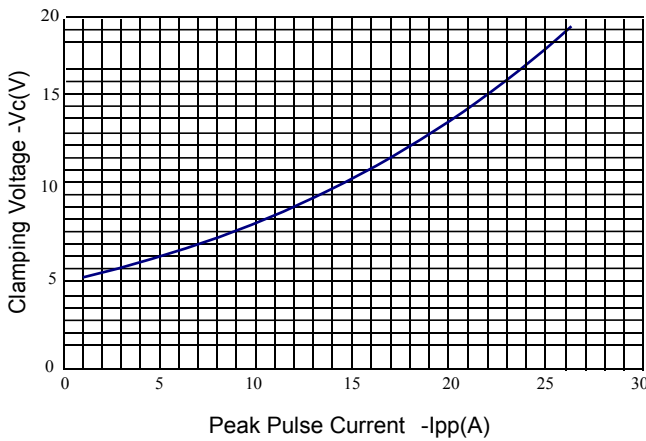


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

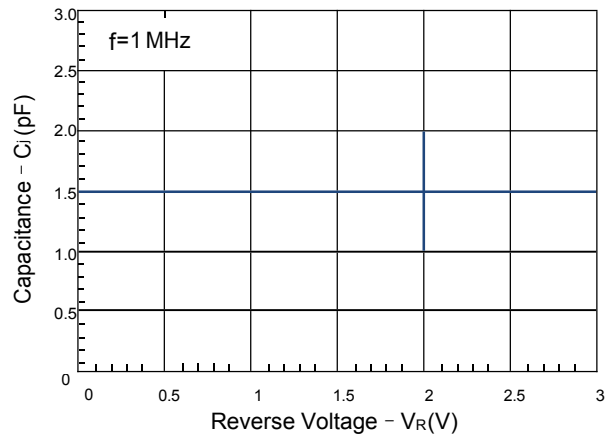


Figure 5: ESD Clamping( 8kV Contact per IEC 61000-4-2)

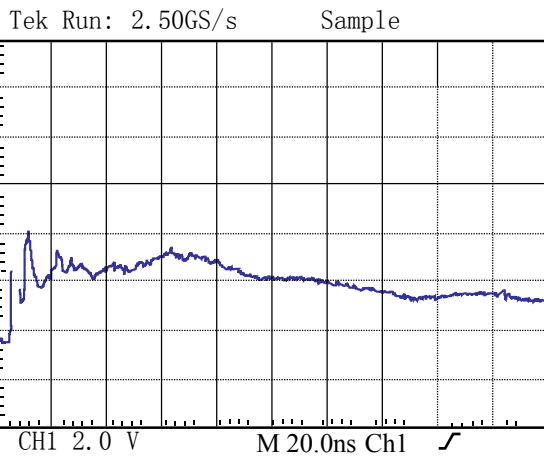
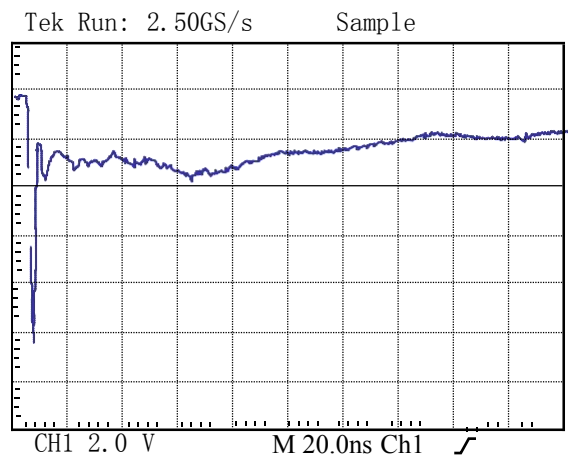
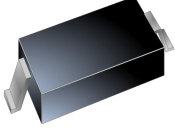
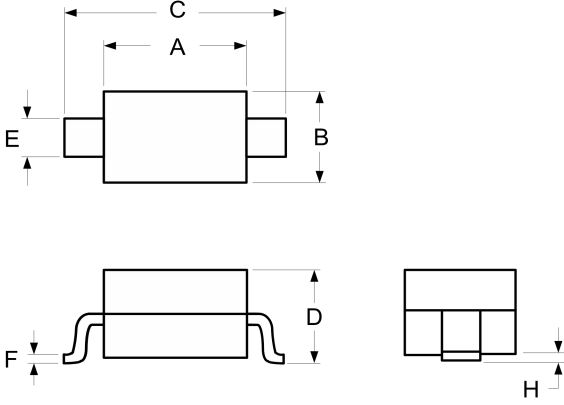


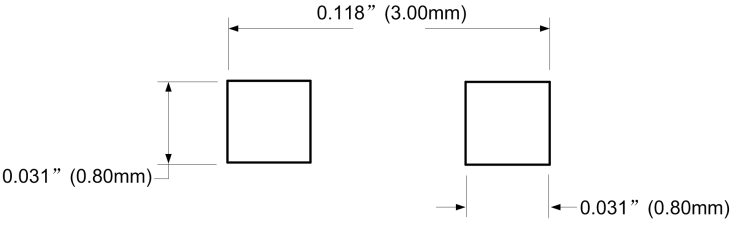
Figure 5: ESD Clamping( -8kV Contact per IEC 61000-4-2)



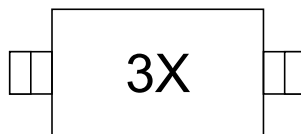
### Outline Drawing – SOD323

PACKAGE OUTLINE		 SOD-323			
		DIMENSIONS			
SYMBOL	MILLIMETER		INCHES		
	MIN	MAX	MIN	MAX	
A	1.60	1.90	0.063	0.075	
B	1.15	1.45	0.045	0.057	
C	2.39	2.70	0.094	0.106	
D	0.92	1.10	0.036	0.043	
E	0.25	0.40	0.010	0.016	
F	0.10	0.20	0.004	0.008	
H	-	0.10	-	0.004	

MOUNTING PAD		<b>Notes</b> 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs.
		

### MarkingCodes



### Package Information

Qty: 3k/Reel