

## Features

- 350 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Unidirectional & Bidirectional Configuration
- Protects One Power or I/O Port
- ESD Protection > 40 kilovolts
- Low Clamping Voltages
- Available in Multiple Voltage Types Ranging from 3V to 24V
- Ultra Low Capacitance: 1.0 pF Typical



## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 25kV$  (air),  $\pm 15kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

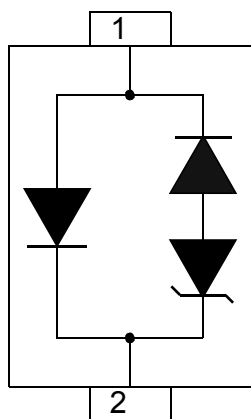
## Mechanical Characteristics

- 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/WEEE Compliant

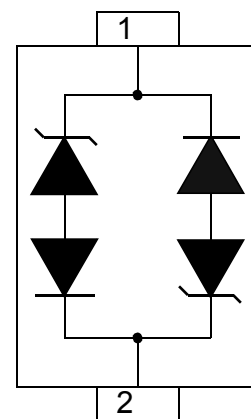
## Applications

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

## PIN Configuration



UNIDIRECTIONAL



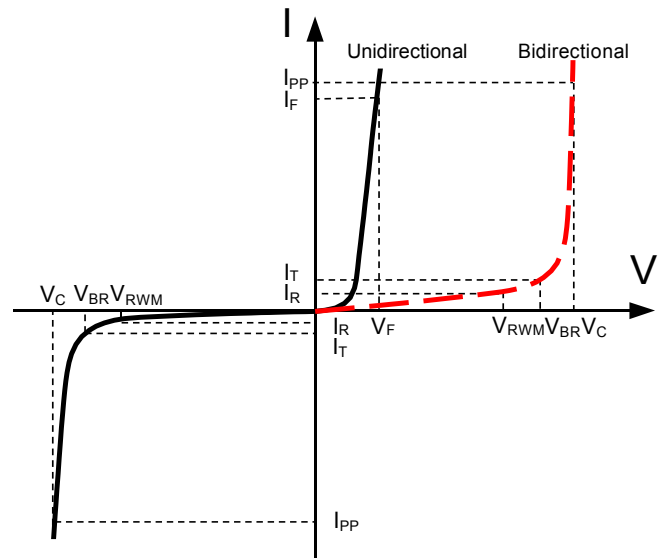
BIDIRECTIONAL

### Absolute Maximum Rating

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

### Electrical Parameters( $T=25^{\circ}C$ )

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 @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

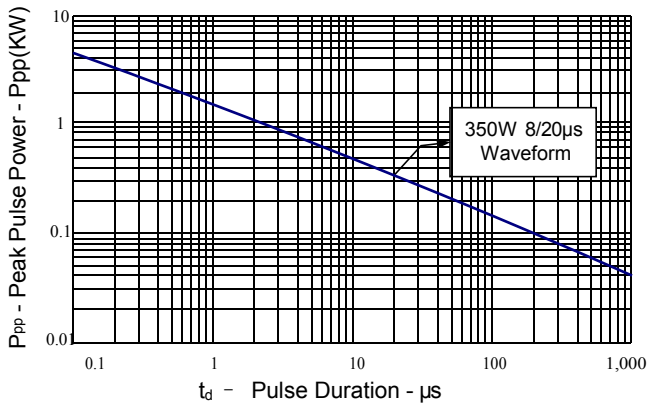


### Electrical Characteristics

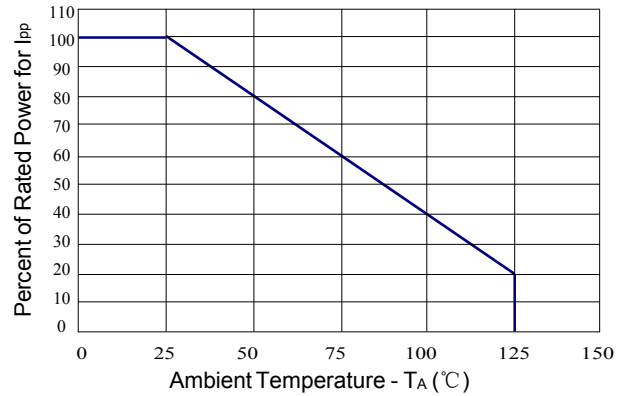
PART NUMBER (See Note 1 & Note 2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE $V_{WM}$ (Volts)	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{BR}$ (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1A$ $V_C$ (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $8/20\mu s$ $V_C$ @ $I_{PP}$	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_d$ ( $\mu A$ )	TYPICAL CAPACITANCE @ 0V, 1 MHz $C$ (pF)
BSD3A031L	03	3.3	4.0	7.0	19.0V @ 20.0A	1	1
BSD3C031L	3B	3.3	4.0	7.0	19.0V @ 20.0A	0.050	1
BSD3A051L	05	5.0	6.0	9.8	18.3V @ 17.0A	1	1
BSD3C051L	5B	5.0	6.0	9.8	18.3V @ 17.0A	0.045	1
BSD3A081L	08	8.0	8.5	13.4	18.5V @ 17.0A	1	1
BSD3C081L	8B	8.0	8.5	13.4	18.5V @ 17.0A	1	1
BSD3A121L	12	12.0	13.3	19.0	28.6V @ 11.0A	1	1
BSD3C121L	AB	12.0	13.3	19.0	28.6V @ 11.0A	1	1
BSD3A151L	15	15.0	16.7	24.0	31.8V @ 10.0A	1	1
BSD3C151L	BB	15.0	16.7	24.0	31.8V @ 10.0A	1	1
BSD3A241L	24	24.0	26.7	43.0	56.0V @ 6.0A	1	1
BSD3C241L	CB	24.0	26.7	43.0	56.0V @ 6.0A	1	1

## Typical Characteristics

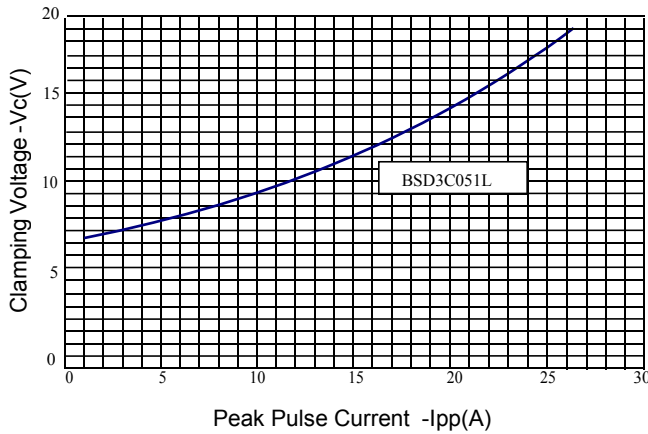
**Figure 1: Peak Pulse Power vs. Pulse Time**



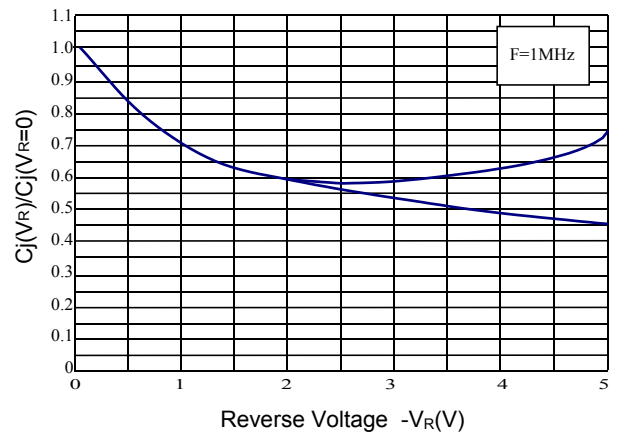
**Figure 2: Power Derating Curve**



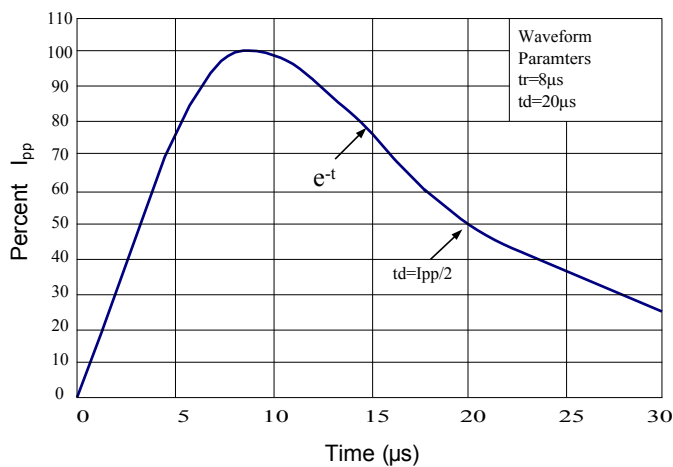
**Figure 3: Clamping Voltage vs. Peak Pulse Current**



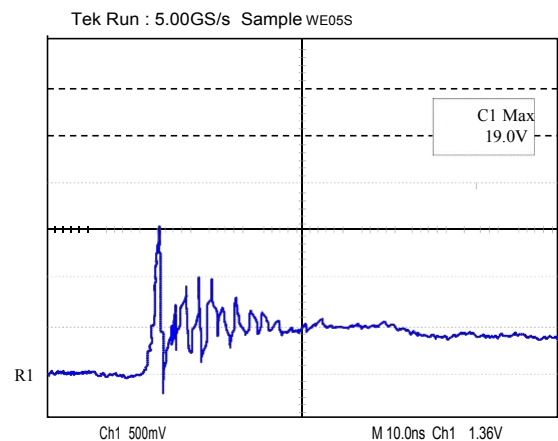
**Figure 4: Normalized Junction Capacitance vs. Reverse Voltage**



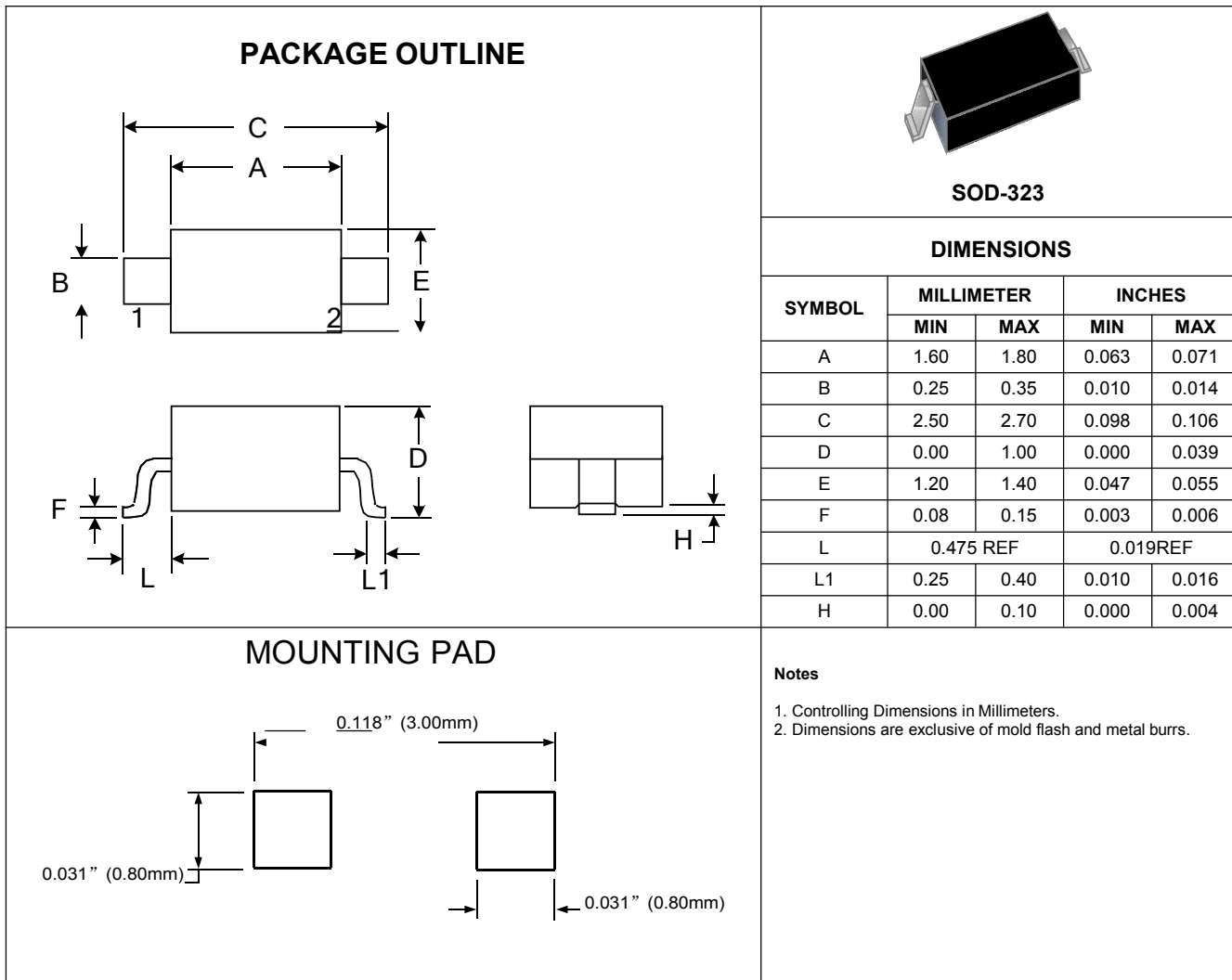
**Figure 5: Pulse Waveform**



**Figure 6: ESD Clamping( 8kV Contact per IEC 61000-4-2)**



## OutlineDrawing–SOD323



## Marking Codes

Part Number	Marking Code
BSD3A031L	03
BSD3C031L	3B
BSD3A051L	05
BSD3C051L	5B
BSD3A081L	08
BSD3C081L	8B
BSD3A121L	12
BSD3C121L	AB
BSD3A151L	15
BSD3C151L	BB
BSD3A241L	24
BSD3C241L	CB

## Package

Qty: 3k/Reel

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