

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)

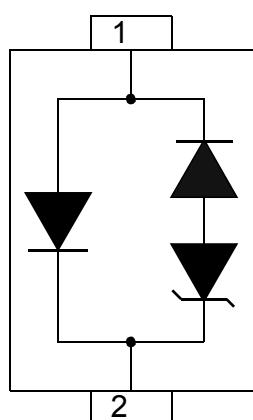
Mechanical Characteristics

- 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

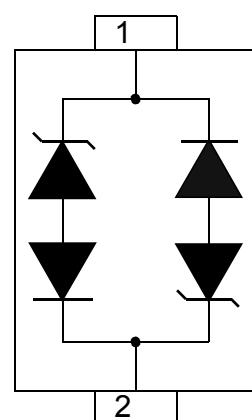
Applications

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

PIN Configuration



UNIDIRECTIONAL



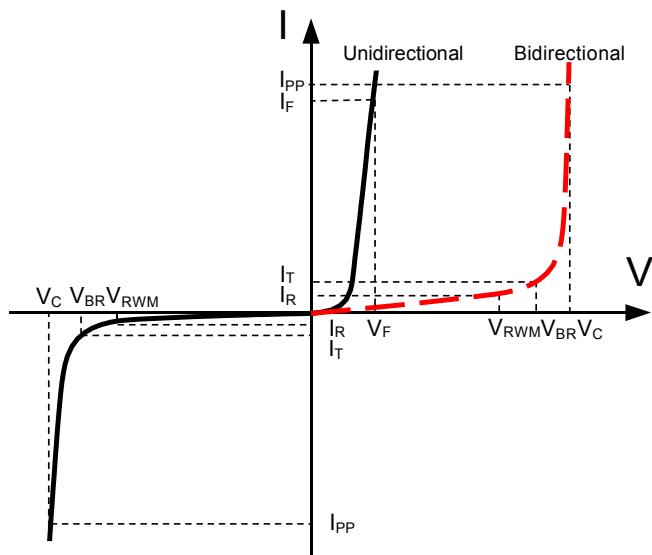
BIDIRECTIONAL

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	°C
Storage Temperature	T_{STG}	-55 to +150	°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) @8/20μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_d (μA)	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

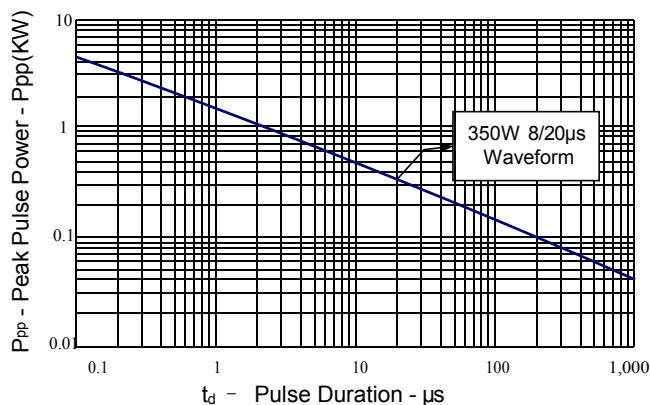


Figure 2: Power Derating Curve

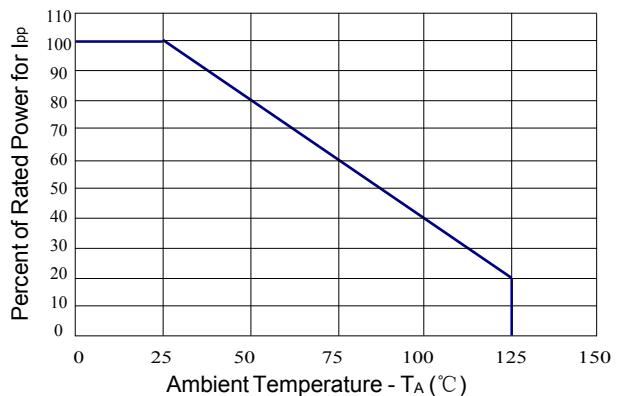


Figure 3: Clamping Voltage vs. Peak Pulse Current

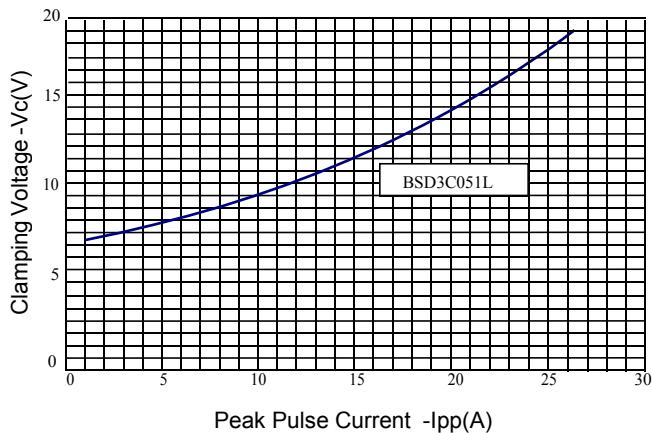


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

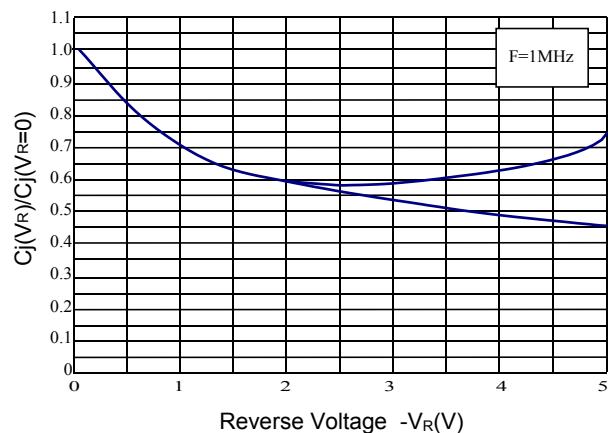


Figure 5: Pulse Waveform

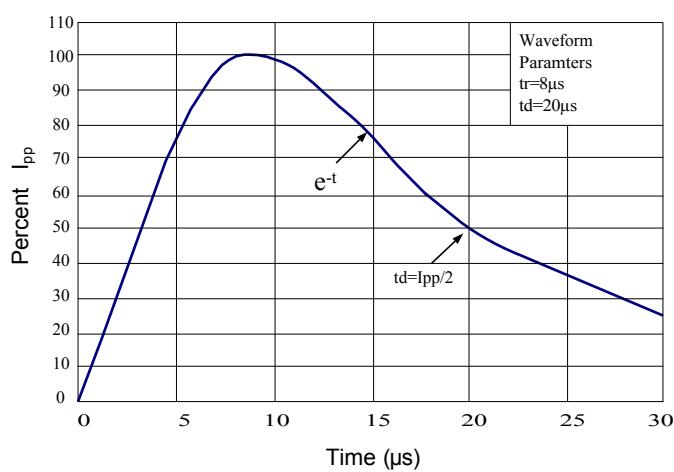
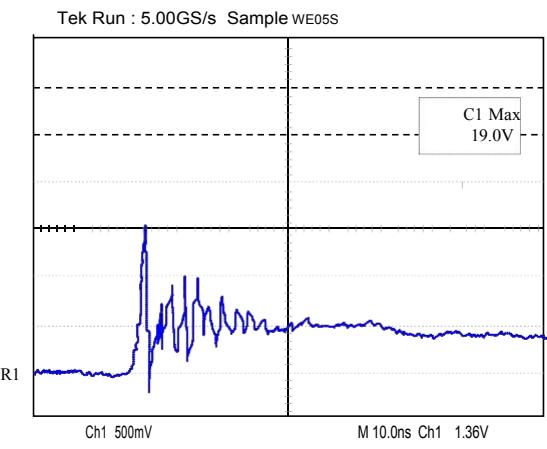


Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



Outline Drawing – SOD323

PACKAGE OUTLINE		SOD-323			
SYMBOL		MILLIMETER		INCHES	
		MIN	MAX	MIN	MAX
A		1.60	1.80	0.063	0.071
B		0.25	0.35	0.010	0.014
C		2.50	2.70	0.098	0.106
D		0.00	1.00	0.000	0.039
E		1.20	1.40	0.047	0.055
F		0.08	0.15	0.003	0.006
L		0.475 REF		0.019REF	
L1		0.25	0.40	0.010	0.016
H		0.00	0.10	0.000	0.004

MOUNTING PAD

Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

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

Package

Qty: 3k/Reel