

Features

- 500 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Replacement for MLV (0805)
- Unidirectional & Bidirectional Configurations
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 3.3V, 5V, 12V, 15V and 24V
- Low Leakage Current
- Response Time is Typically $< 1\text{ ns}$



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 24A (8/20 μs)

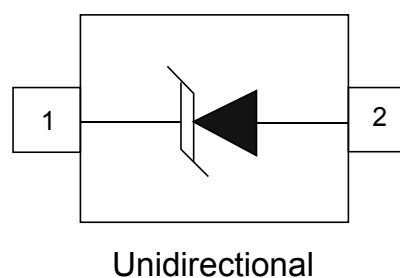
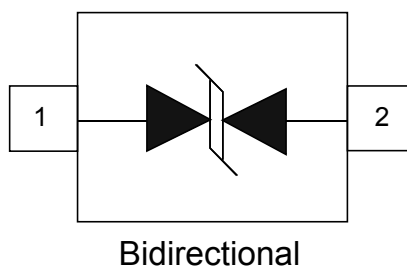
Mechanical Characteristics

- JEDEC SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

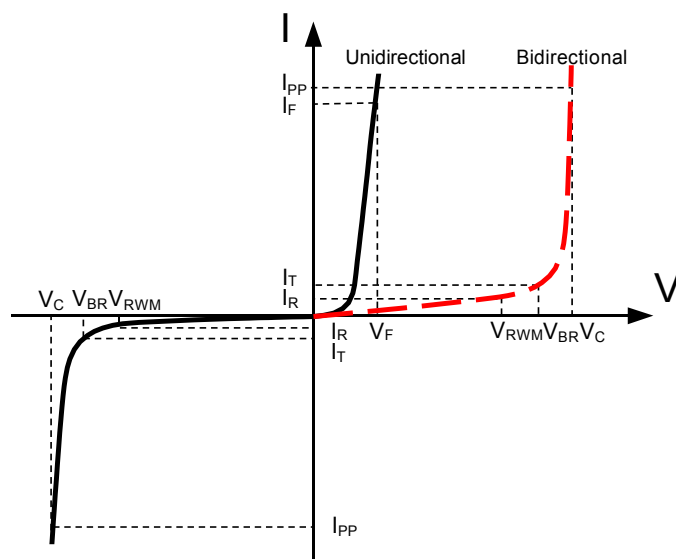
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Unidirectional Peak Pulse Power ($t_p=8/20\mu s$) -See Figure 1	P_{PP}	500	Watts
Bidirectional Peak Pulse Power ($t_p=8/20\mu s$) -See Figure 1	P_{pp}	400	Watts
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
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	Reverse Stand off Voltage V_{RWM} (Volts)	Minimum Breakdown Voltage $V_{BR}@1mA$ (Volts)	Maximum Clamping Voltage $V_C@I_{PP}$ (Volts)	Maximum Peak Pulse Current I_{pp} (Amps)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)	Typical Capacitance DC=0V $C_J@1MHz$ (pF)
BSD3A031V	3.3	4.0	17	27	70	200
BSD3C031V	3B	4.0	18	25	70	100
BSD3A051V	05	6.0	20	24	1	150
BSD3C051V	5B	6.0	24	20	1	75
BSD3A121V	12	13.3	35	15	1	50
BSD3C121V	12B	13.3	39	12	1	25
BSD3A151V	15	16.7	42	12	1	40
BSD3C151V	15B	16.7	55	9	1	20
BSD3A241V	24	26.7	60	8	1	30
BSD3C241V	24B	26.7	67	6	1	15

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

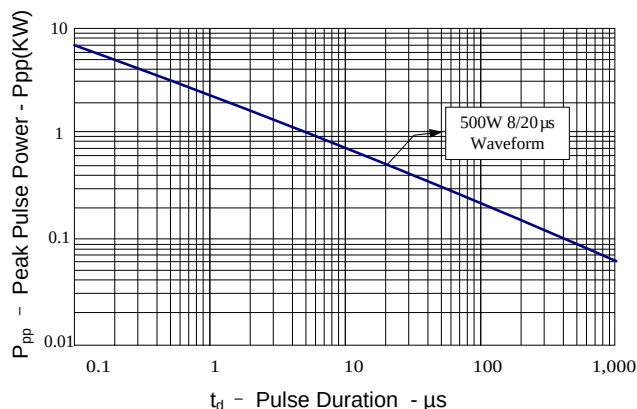


Figure 2: Power Derating Curve

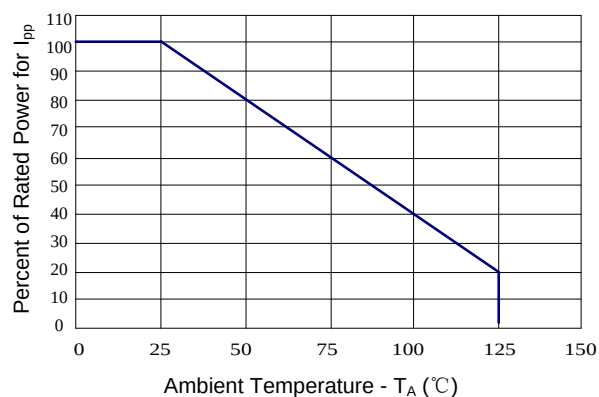


Figure 3: Clamping Voltage vs. Peak Pulse Current

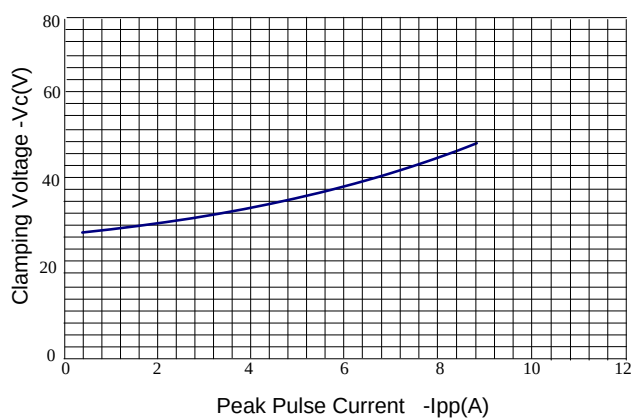


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

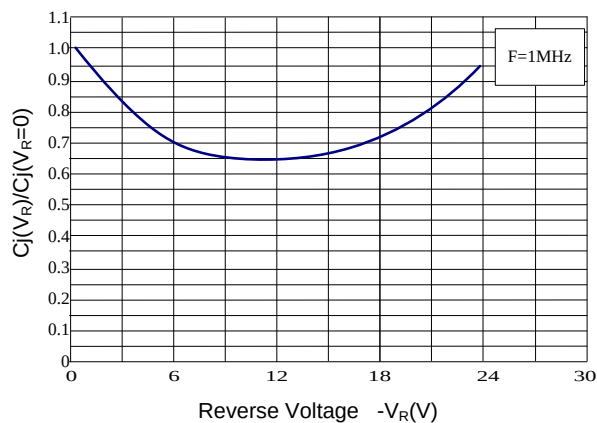
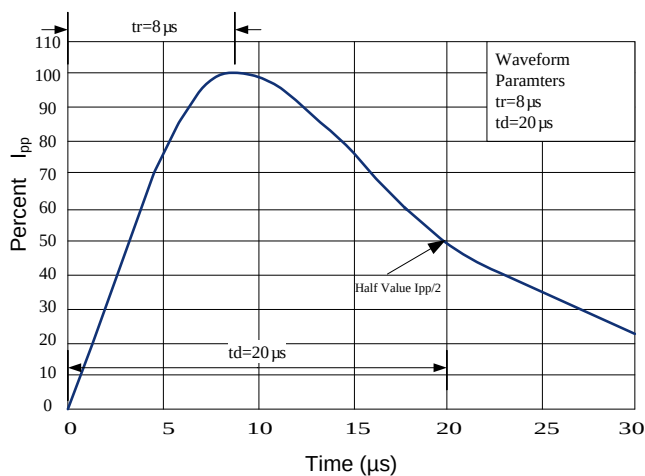
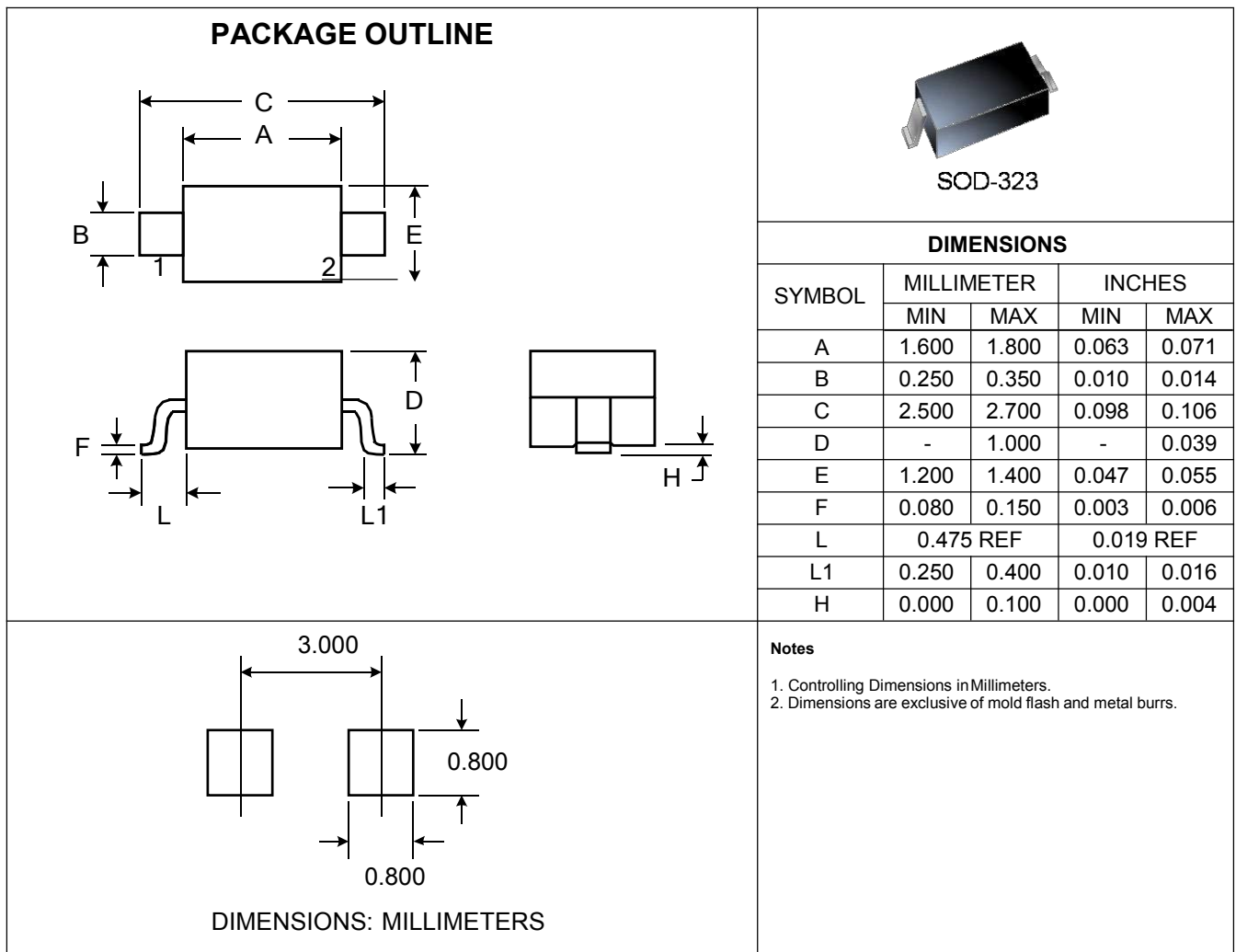


Figure 5: Pulse Waveform



Outline Drawing – SOD323



Marking Codes

Part Number	Marking Code
BSD3A031V	03
BSD3C031V	3B
BSD3A051V	05
BSD3C051V	5B
BSD3A081V	08
BSD3C081V	8B
BSD3A121V	12
BSD3C121V	AB
BSD3A151V	15
BSD3C151V	BB
BSD3A241V	24
BSD3C241V	CB

Package

Qty: 3k/Reel

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