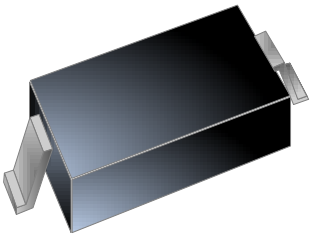
WSxxD(-B) Series

Transient Voltage Suppressor

Features

- 500 Watts Peak Pulse Power per Line (t_p = 8/20μs)
- 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 ns



SOD-323

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5 (Lightning) 24A (8/20μs)**

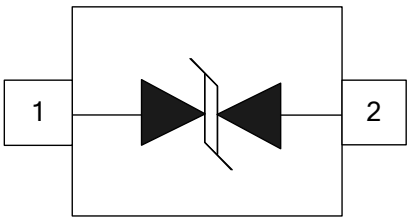
Mechanical Characteristics

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

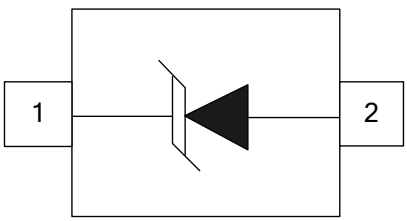
Applications

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

Schematic & PIN Configuration



Bidirectional

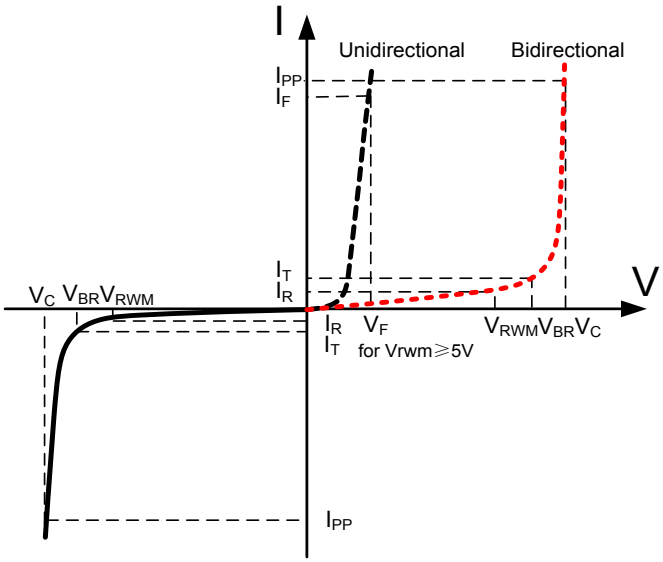


Unidirectional

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Unidirectional Peak Pulse Power（t_p =8/20μs）-See Figure 1	P_{PP}	500	Watts
Bidirectional Peak Pulse Power（t_p =8/20μs）-See Figure 1	P_{pp}	400	Watts
Operating Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Parameters (T=25℃)

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 CJ@ 1 MHz (pF)
WS03D	3.3	4.0	17	27	70	200
WS03D-B	3.3	4.0	18	24	70	100
WS05D	05	6.0	20	25	1	150
WS05D-B	05	6.0	24	20	1	75
WS12D	12	13.3	35	15	1	50
WS12D-B	12	13.3	39	12	1	25
WS15D	15	16.7	42	12	1	40
WS15D-B	15	16.7	55	9	1	20
WS24D	24	26.7	60	8	1	30
WS24D-B	24	26.7	67	6	1	15

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

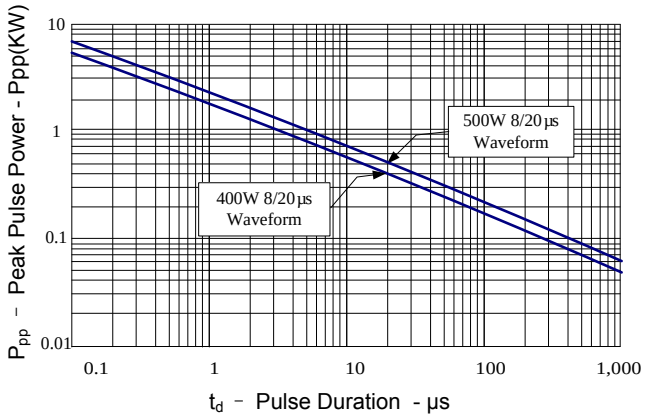


Figure 2: Power Derating Curve

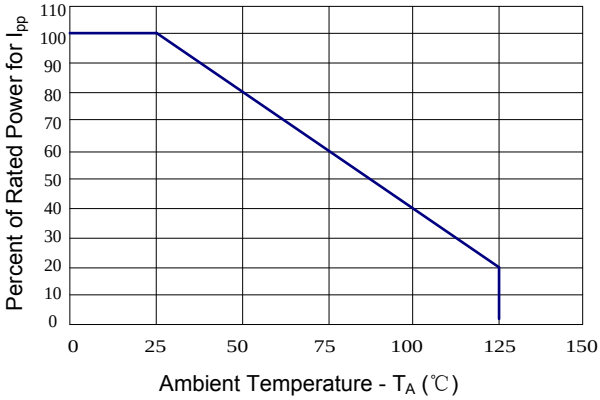


Figure 3: Pulse Waveform

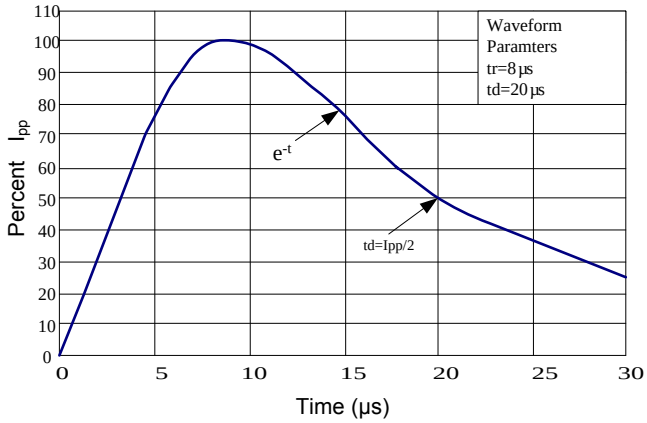


Figure 4: Clamping Voltage vs. Peak Pulse Current

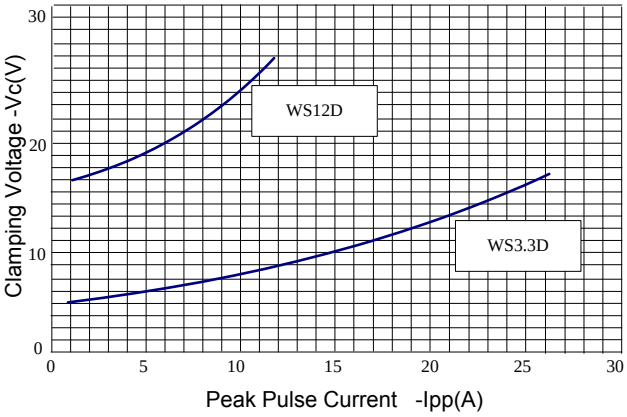
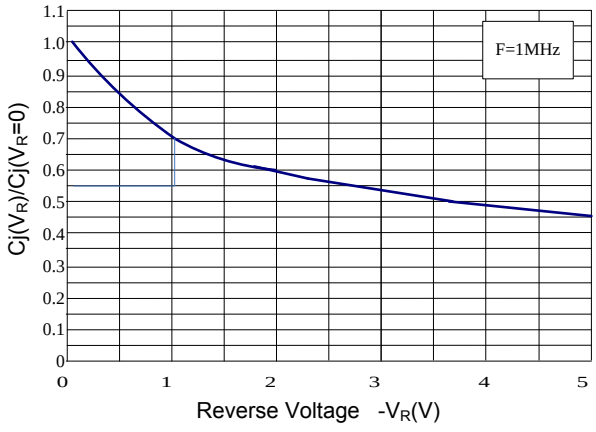
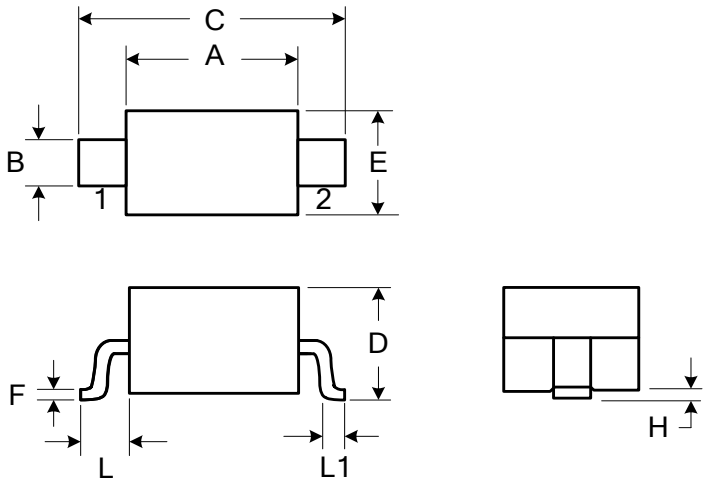


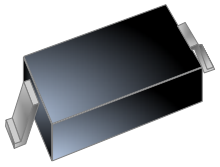
Figure 5: Normalized Junction apacitance vs. Reverse Voltage



Outline Drawing – SOD-323

PACKAGE OUTLINE

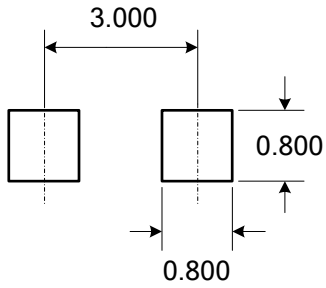




SOD-323

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D	-	1.000	-	0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475 REF		0.019 REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004



DIMENSIONS: MILLIMETERS

Notes

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

Marking Codes

Part Number	WSxxD	WSxxD-B
Marking Code