

## Transient Voltage Suppressor

### 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 Clamping Voltages
- Ultra Low Capacitance: 1.0 pF Typical

### IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5(Surge): 17A, 8/20 $\mu s$



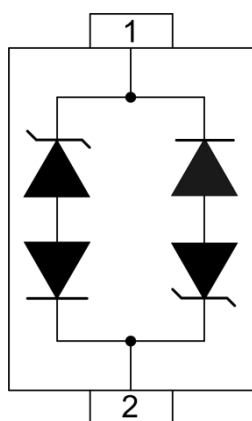
### Mechanical Characteristics

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

### Applications

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

### PIN Configuration



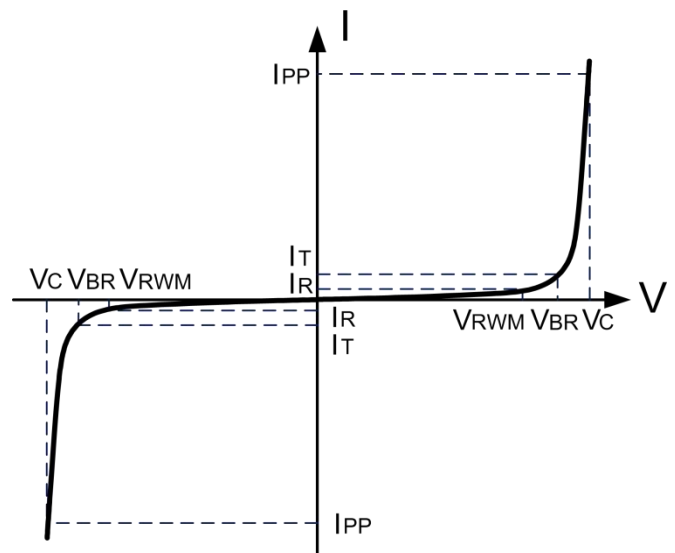
**BIDIRECTIONAL**

### Absolute Maximum Rating

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

### Electrical Parameters (T=25°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

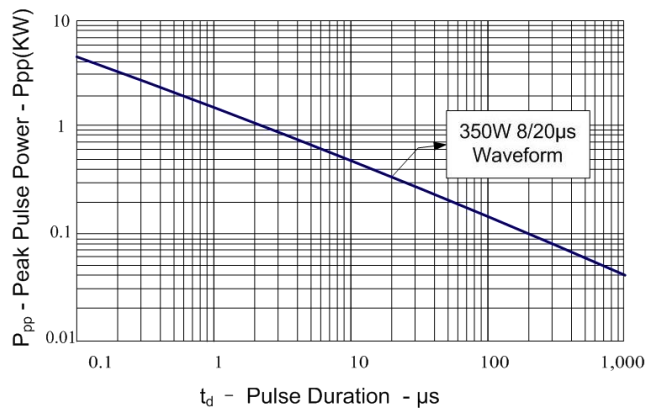
PART NUMBER (See Note 1 & Note 2)	RATED STAND-OFF VOLTAGE  $V_{WM}$ (Volts)	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{BR}$ (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_P = 1A$ $V_C$ (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $8/20\mu s$ $V_C$ @ $I_{PP}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_d$ ( $\mu A$ )	TYPICAL CAPACITANCE  @0V, 1 MHz C(pF)
CSE5.0BLS323	5.0	6.0	9.8	18.3V @ 17.0A	1	1

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

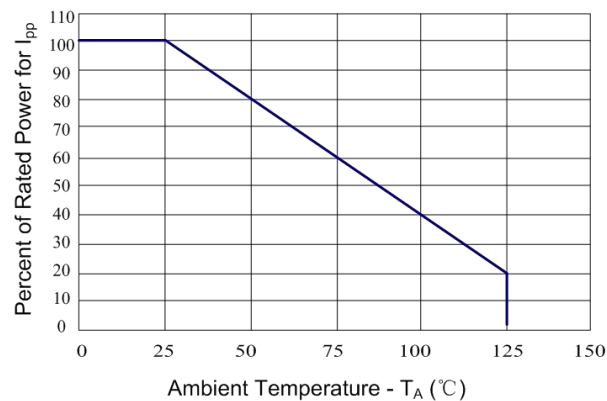
**Note 2:** For Bidirectional Devices Only: Electrical characteristics apply in both directions.

### Typical Characteristics

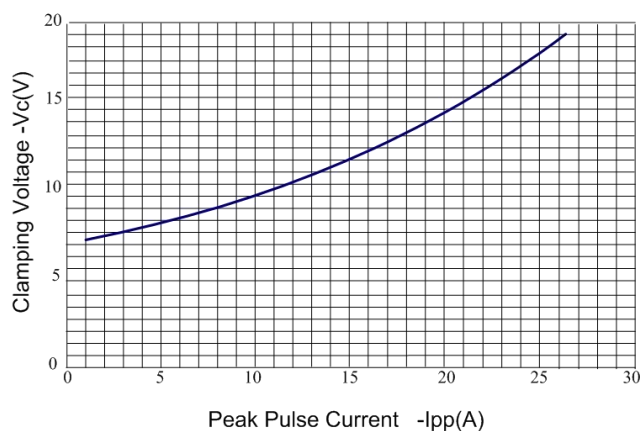
**Figure 1: Peak Pulse Power vs. Pulse Time**



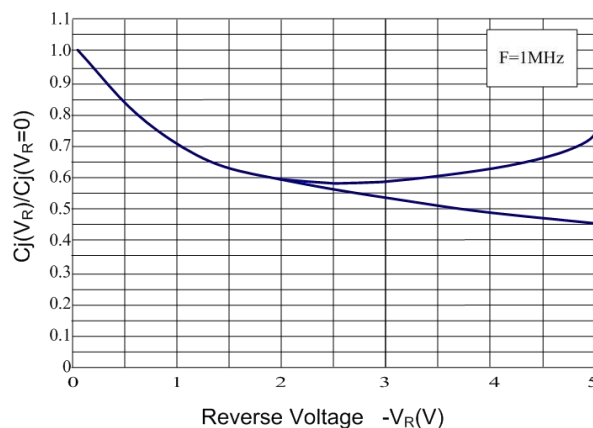
**Figure 2: Power Derating Curve**



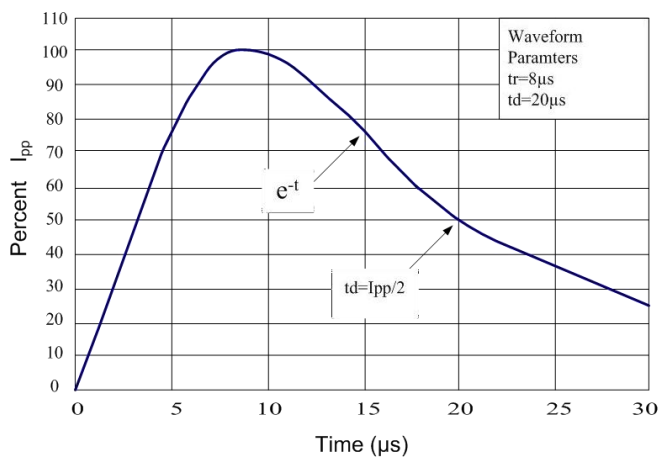
**Figure 3: Clamping Voltage vs. Peak Pulse Current**



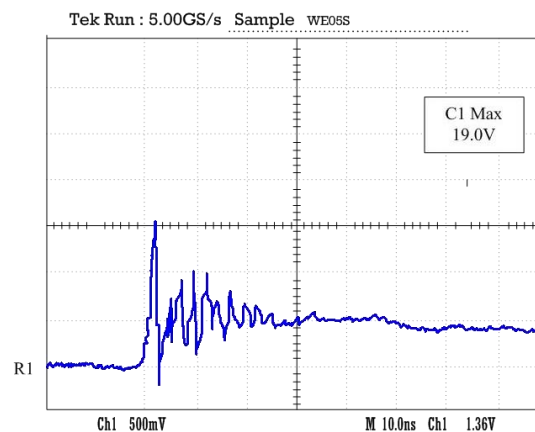
**Figure 4: Normalized Junction Capacitance vs. Reverse Voltage**



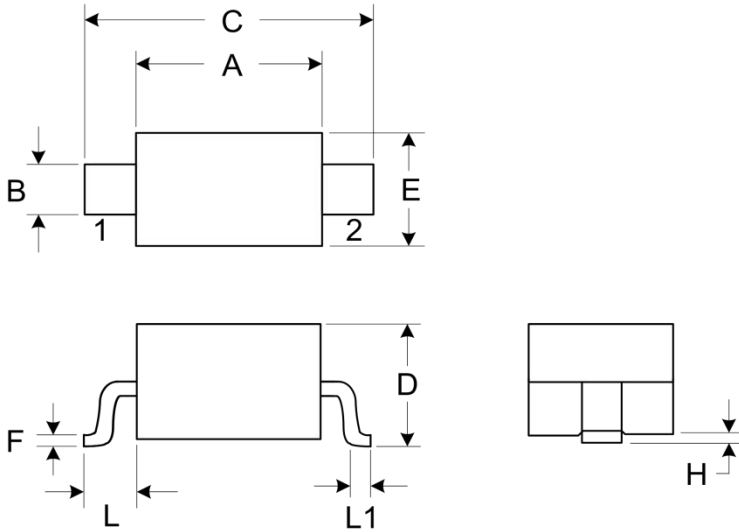

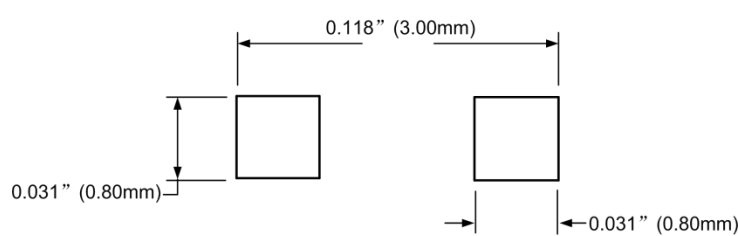
**Figure 5: Pulse Waveform**



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



### Outline Drawing – SOD-323

<div>PACKAGE OUTLINE</div> <div></div>	<div><div>SOD-323</div></div> <div>DIMENSIONS</div> <table><tr><th rowspan="2">SYMBOL</th><th colspan="2">MILLIMETER</th><th colspan="2">INCHES</th></tr><tr><th>MIN</th><th>MAX</th><th>MIN</th><th>MAX</th></tr><tr><td>A</td><td>1.60</td><td>1.80</td><td>0.063</td><td>0.071</td></tr><tr><td>B</td><td>0.25</td><td>0.35</td><td>0.010</td><td>0.014</td></tr><tr><td>C</td><td>2.50</td><td>2.70</td><td>0.098</td><td>0.106</td></tr><tr><td>D</td><td>0.00</td><td>1.00</td><td>0.000</td><td>0.039</td></tr><tr><td>E</td><td>1.20</td><td>1.40</td><td>0.047</td><td>0.055</td></tr><tr><td>F</td><td>0.08</td><td>0.15</td><td>0.003</td><td>0.006</td></tr><tr><td>L</td><td colspan="2">0.475 REF</td><td colspan="2">0.019REF</td></tr><tr><td>L1</td><td>0.25</td><td>0.40</td><td>0.010</td><td>0.016</td></tr><tr><td>H</td><td>0.00</td><td>0.10</td><td>0.000</td><td>0.004</td></tr></table>	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
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<div>MOUNTING PAD</div> <div></div>	<div>Notes</div> <div><div>1. Controlling Dimensions in Millimeters.</div><div>2. Dimensions are exclusive of mold flash and metal burrs.</div></div>																																																						

### Package Information

Qty: 3k/Reel

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