

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): 11A, 8/20 μs



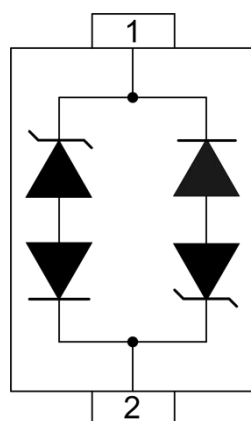
Mechanical Characteristics

- 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

- xDSL, VDSL
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

PIN Configuration



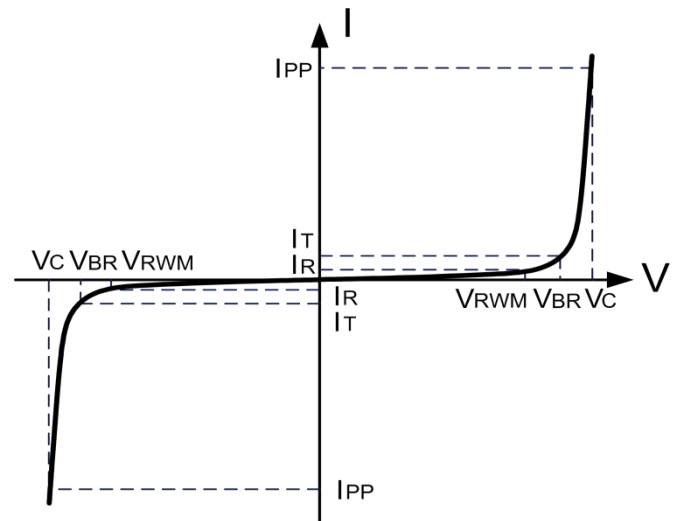
BIDIRECTIONAL

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 μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_d (μA)	TYPICAL CAPACITANCE @ 0V, 1 MHz C(pF)
CSE12BLS323	12.0	13.3	19.0	28.6V @ 11.0A	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

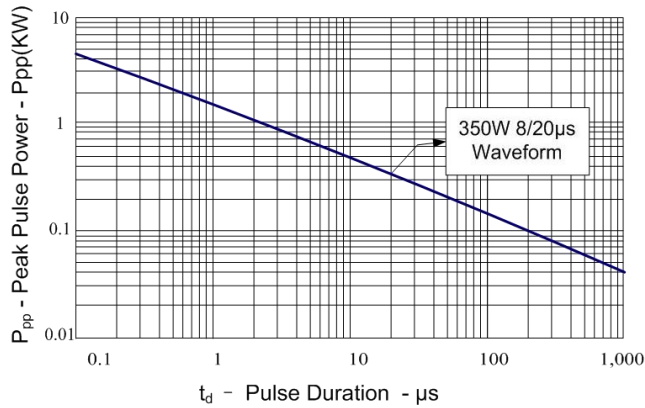


Figure 2: Power Derating Curve

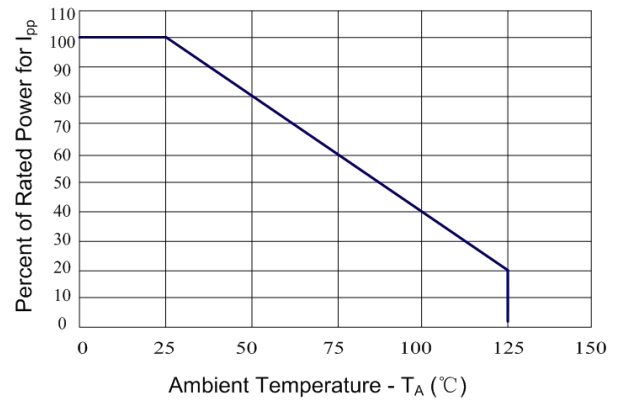


Figure 3: Clamping Voltage vs. Peak Pulse Current

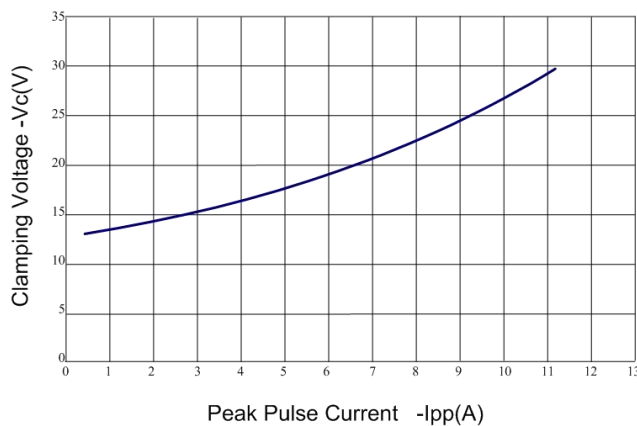


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

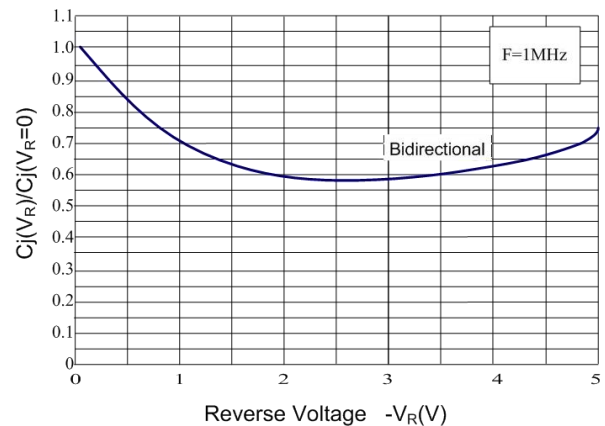
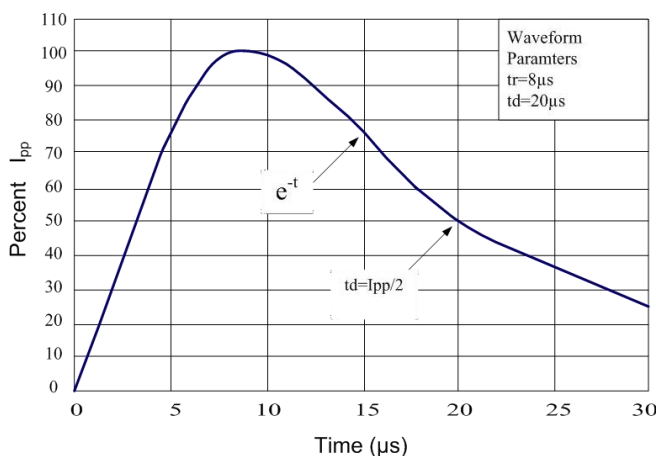
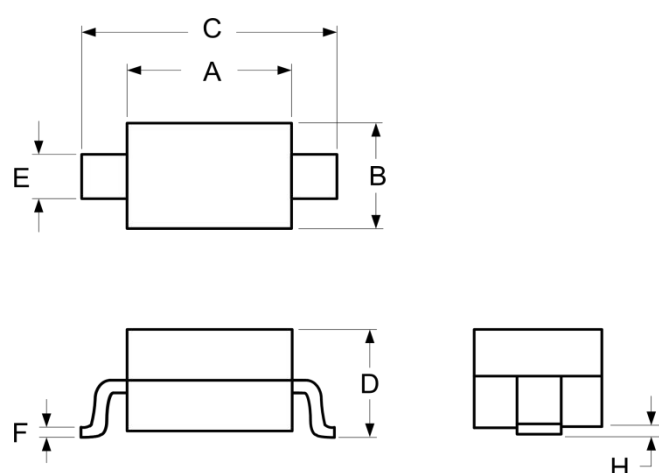

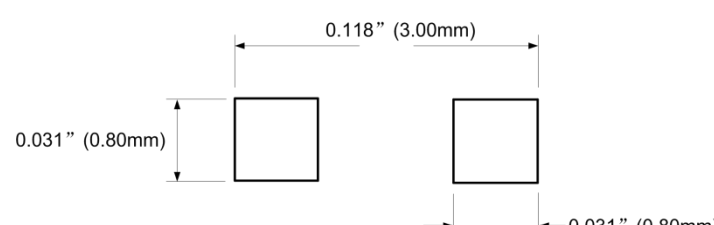


Figure 5: Pulse Waveform



R1

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>1.90</td><td>0.063</td><td>0.075</td></tr><tr><td>B</td><td>1.15</td><td>1.45</td><td>0.045</td><td>0.057</td></tr><tr><td>C</td><td>2.39</td><td>2.70</td><td>0.094</td><td>0.106</td></tr><tr><td>D</td><td>0.92</td><td>1.10</td><td>0.036</td><td>0.043</td></tr><tr><td>E</td><td>0.25</td><td>0.40</td><td>0.010</td><td>0.016</td></tr><tr><td>F</td><td>0.10</td><td>0.20</td><td>0.004</td><td>0.008</td></tr><tr><td>H</td><td>-</td><td>0.10</td><td>-</td><td>0.004</td></tr></table>	SYMBOL	MILLIMETER		INCHES		MIN	MAX	MIN	MAX	A	1.60	1.90	0.063	0.075	B	1.15	1.45	0.045	0.057	C	2.39	2.70	0.094	0.106	D	0.92	1.10	0.036	0.043	E	0.25	0.40	0.010	0.016	F	0.10	0.20	0.004	0.008	H	-	0.10	-	0.004
SYMBOL	MILLIMETER		INCHES																																										
	MIN	MAX	MIN	MAX																																									
A	1.60	1.90	0.063	0.075																																									
B	1.15	1.45	0.045	0.057																																									
C	2.39	2.70	0.094	0.106																																									
D	0.92	1.10	0.036	0.043																																									
E	0.25	0.40	0.010	0.016																																									
F	0.10	0.20	0.004	0.008																																									
H	-	0.10	-	0.004																																									
<div>MOUNTING PAD</div> <div></div>	<div>Notes</div> <div>1. Controlling Dimensions in Millimeters.</div> <div>2. Dimensions are exclusive of mold flash and metal burrs.</div> <div>TAPE & REEL ORDERING NOMENCLATURE</div> <div>1. Surface mount product is taped and reeled in accordance with EIA-481.</div>																																												

Package Information

Qty: 3k/Reel

Notice

Specifications of the products displayed herein are subject to change without notice. CCS or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in CCS terms and conditions of sale for such products, CCS assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of CCS products including liability or warranties relating to fitness for a particular purpose, merchant ability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications.

Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CCS for any damages resulting from such improper use or sale.