

Features

- 500 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 13V
- Low Leakage Current
- Response Time is Typically < 1 ns



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 (Lightning) 12A (8/20 μs)

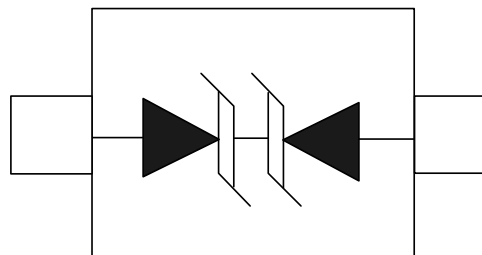
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

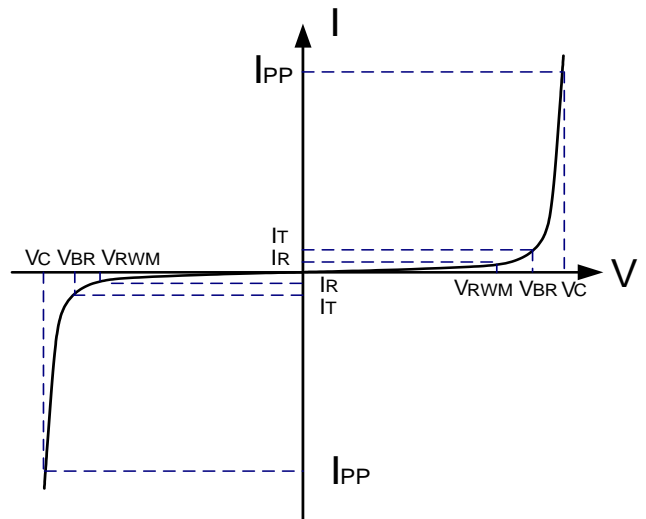


SOD-323 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	500	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	12	A
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

DW13D-B-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				13.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	14			V
Reverse Leakage Current	I_R	$V_{RWM}=13V, T=25^{\circ}C$			1	μA
Clamping Voltage	V_C	$I_{PP}=12A, t_p=8/20\mu s$		33	35	V
Junction Capacitance	C_j	$V_R=0V, f=1MHz$		25		pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

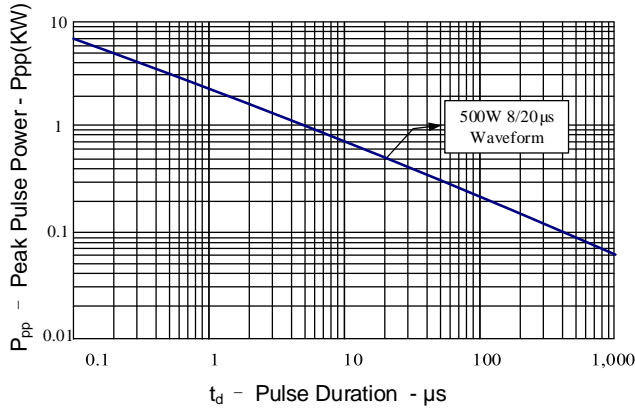


Figure 2: Power Derating Curve

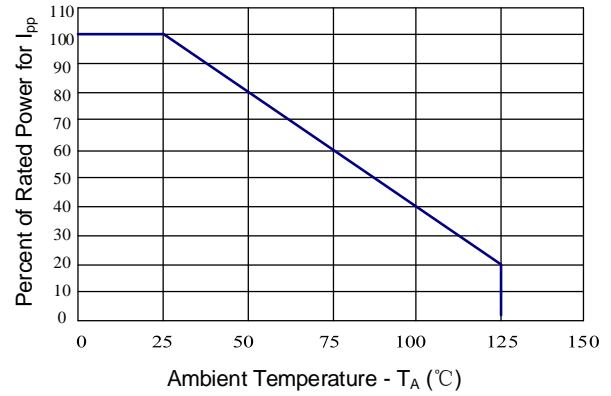


Figure 3: Clamping Voltage vs. Peak Pulse Current

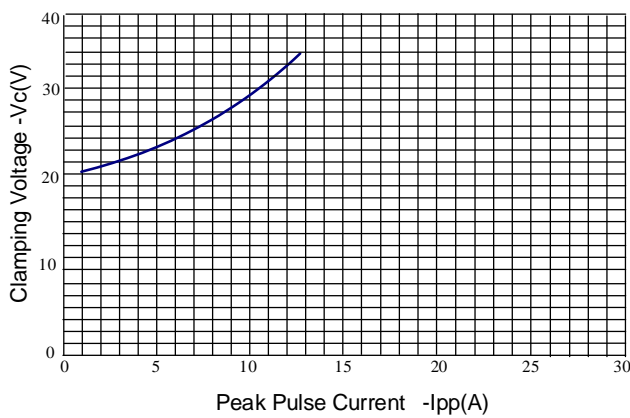


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

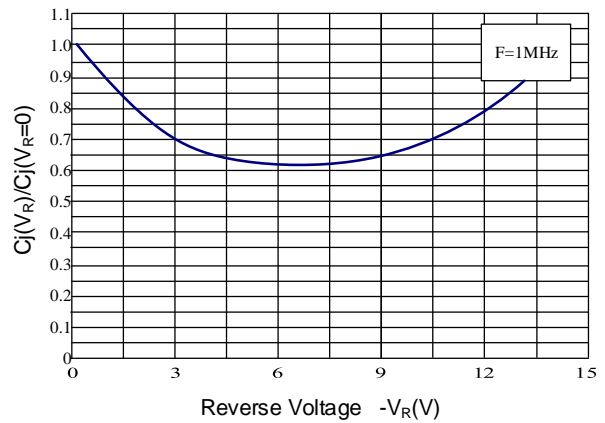
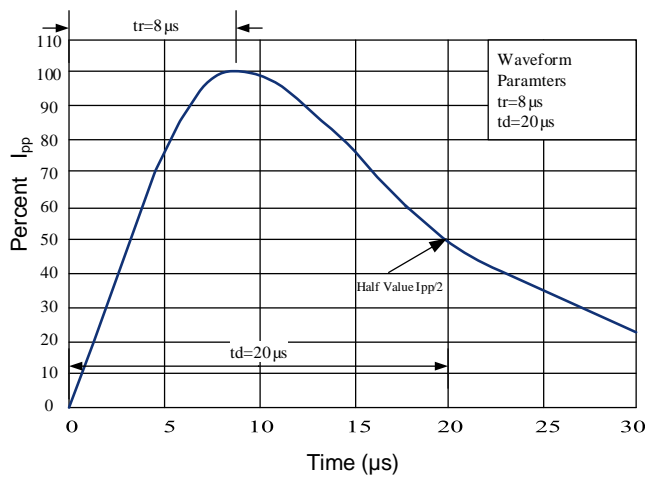


Figure 5: Pulse Waveform



Outline Drawing – SOD-323

<p>PACKAGE OUTLINE</p>	<p>SOD-323</p> <p style="text-align: center;">DIMENSIONS</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <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> </thead> <tbody> <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> </tbody> </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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<p>MOUNTING PAD</p>	<p>Notes</p> <ol style="list-style-type: none"> 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs. 																																																						

Marking Codes

Part Number	DW13D-B-S
Marking Code	

Package Information

Qty: 3k/Reel