



Features

- 1400 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 15V
- Low Leakage Current

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 50A (8/20 μs)

Mechanical Characteristics

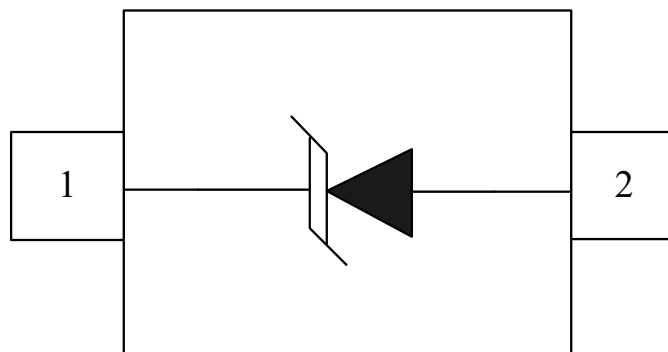
- SOD-323F package
- Marking: Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

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



Schematic & PIN Configuration

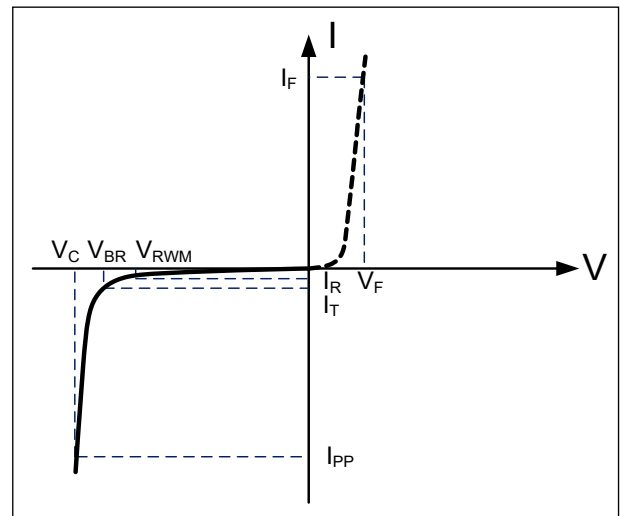


SOD-323F (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	1400	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	50	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}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	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

DW15D3HP-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				15	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	16		20	V
Forward Voltage	V_F	$I_F=10mA$	0.5		1.0	V
Reverse Leakage Current	I_R	$V_{RWM}=15V, T=25^{\circ}C$			100	nA
Clamping Voltage	V_C	$I_{PP}=50A, t_p=8/20\mu s$		25	28	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A,$ $t_p = 0.2/100ns$ (TLP)		17.4		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A,$ $t_p = 0.2/100ns$ (TLP)		18.6		V
Dynamic Resistance ^{1,2}	R_{DYN}	TLP=0.2/100ns		0.1		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		320	350	pF

Notes : 1、TLP Setting : $t_p=100ns, t_r=0.2ns, I_{TLP}$ and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.

2、Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$ using "Best Fit".

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Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

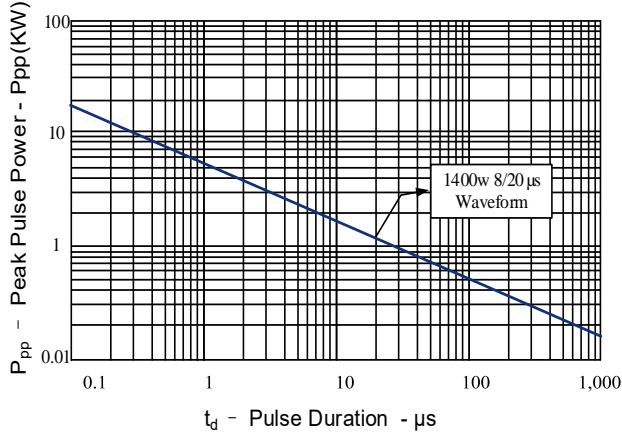


Figure 2: Power Derating Curve

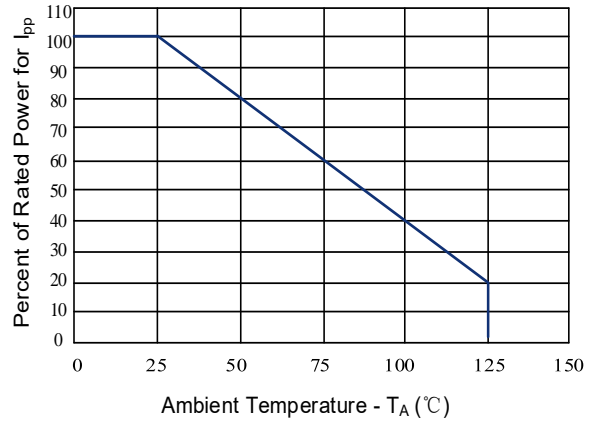


Figure 3: Clamping Voltage vs. Peak Pulse Current

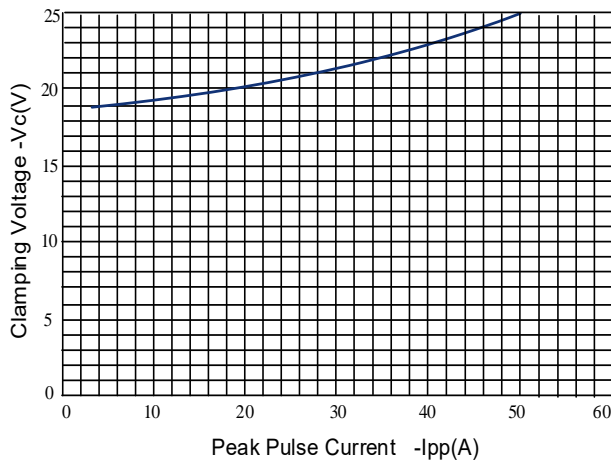


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

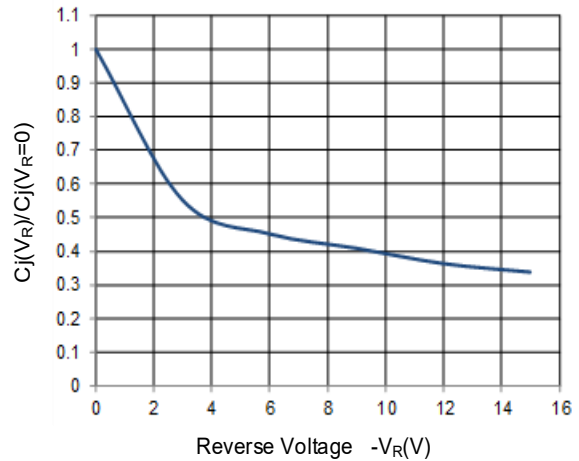


Figure 5: Pulse Waveform

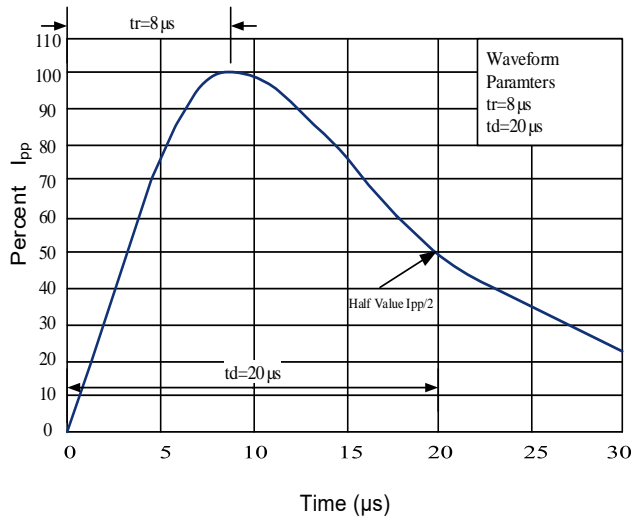
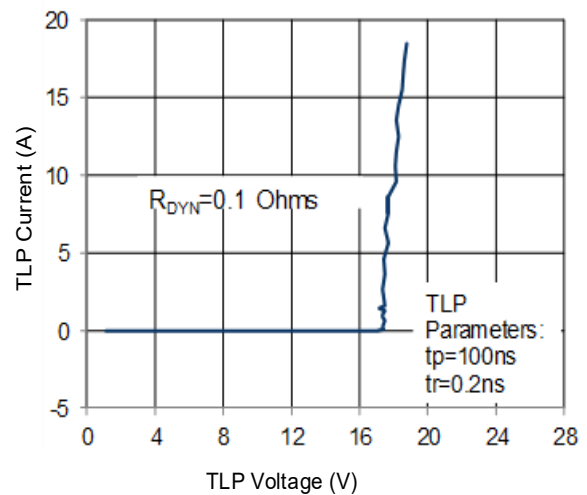


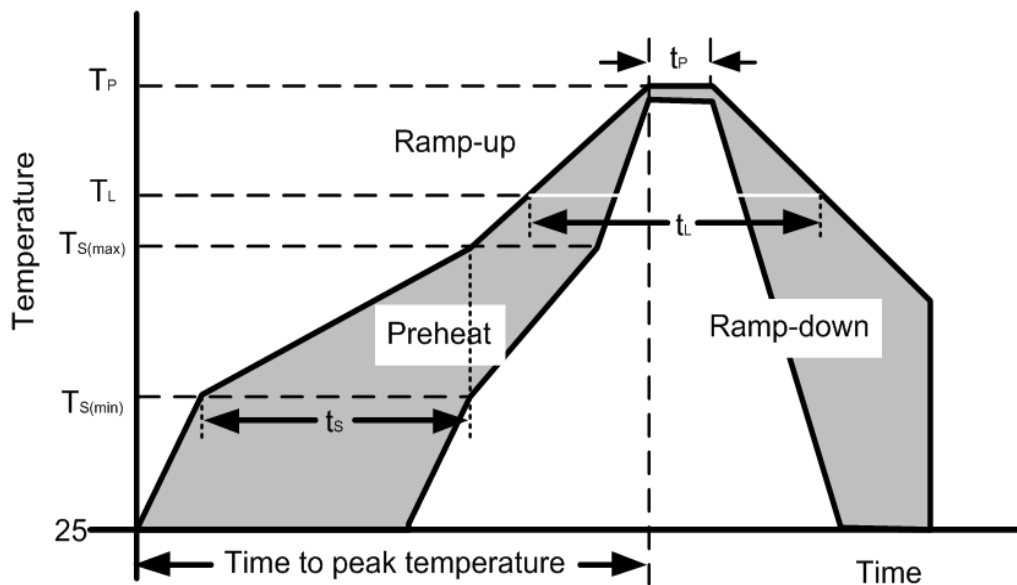
Figure 6: TLP Positive I-V Curve





Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{S(min)}$)	150°C
	Temperature Max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L —Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C





Outline Drawing – SOD-323F

<p style="text-align: center;">PACKAGE OUTLINE</p>	<p>SOD-323F</p>																																			
<p style="text-align: center;">DIMENSIONS: MILLIMETERS</p>	<table border="1"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="3">MILLIMETERS</th> </tr> <tr> <th>MIN</th> <th>TYP</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.60</td> <td>0.65</td> <td>0.75</td> </tr> <tr> <td>b</td> <td>0.25</td> <td>0.30</td> <td>0.40</td> </tr> <tr> <td>C</td> <td>0.06</td> <td>0.13</td> <td>0.21</td> </tr> <tr> <td>D</td> <td>1.60</td> <td>1.70</td> <td>1.80</td> </tr> <tr> <td>E</td> <td>1.15</td> <td>1.25</td> <td>1.35</td> </tr> <tr> <td>H_E</td> <td>2.30</td> <td>2.50</td> <td>2.70</td> </tr> <tr> <td>L</td> <td>0.30</td> <td>0.40</td> <td>0.50</td> </tr> </tbody> </table> <p>Notes: Controlling Dimension: Millimeter.</p>	SYMBOL	MILLIMETERS			MIN	TYP	MAX	A	0.60	0.65	0.75	b	0.25	0.30	0.40	C	0.06	0.13	0.21	D	1.60	1.70	1.80	E	1.15	1.25	1.35	H _E	2.30	2.50	2.70	L	0.30	0.40	0.50
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Marking Codes

Part Number	Marking Code
DW15D3HP-S	

Package Information

Qty: 3k/Reel