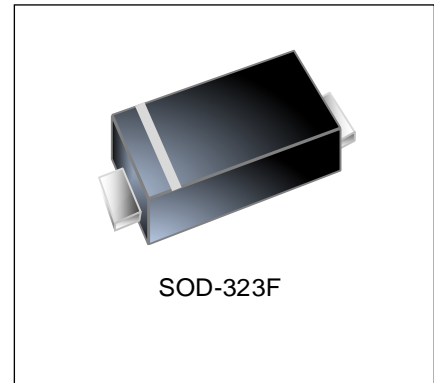


Transient Voltage Suppressor

Features

- 1260 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- Small Body Outline Dimensions
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 4.5V
- 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) 90A (8/20 μs)

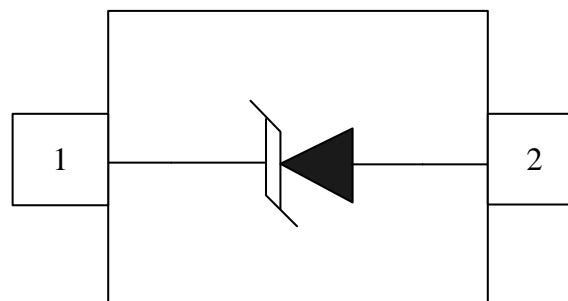
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

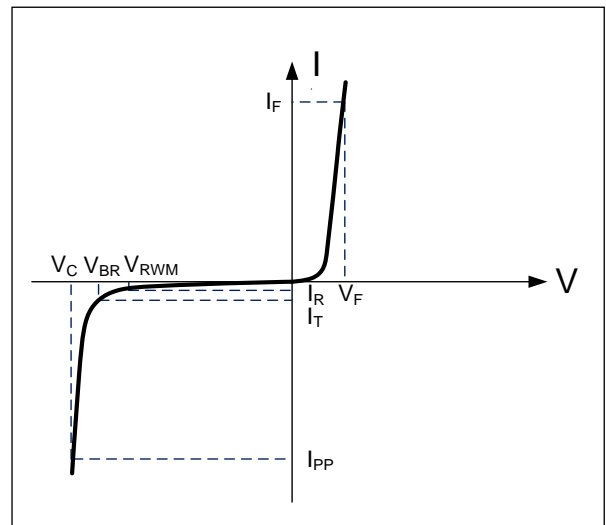


SOD-323F (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P _{PP}	1260	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I _{PP}	90	A
Operating Temperature	T _J	-55 to + 125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical Parameters (T=25°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

WS4.5D3HP						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V _{RWM}				4.5	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	5		7	V
Reverse Leakage Current	I _R	V _{RWM} =4.5V, T=25°C			500	nA
Forward Voltage	V _F	I _F =10mA	0.5		1	V
Clamping Voltage	V _C	I _{PP} =90A, t _p =8/20μs		12	14	V
Dynamic Resistance ^{1,2}	R _{DYN}	TLP=0.2/100ns		0.05		Ω
ESD Clamping Voltage ¹	V _C	I _{PP} = 4A, t _p = 0.2/100ns (TLP)		7		V
ESD Clamping Voltage ¹	V _C	I _{PP} = 16A, t _p = 0.2/100ns (TLP)		7.6		V
Junction Capacitance	C _j	V _R = 0V, f = 1MHz		660	800	pF

Note: 1、 TLP Setting : t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t₁=70ns to t₂=90ns.
 2、 Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using “Best Fit”

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

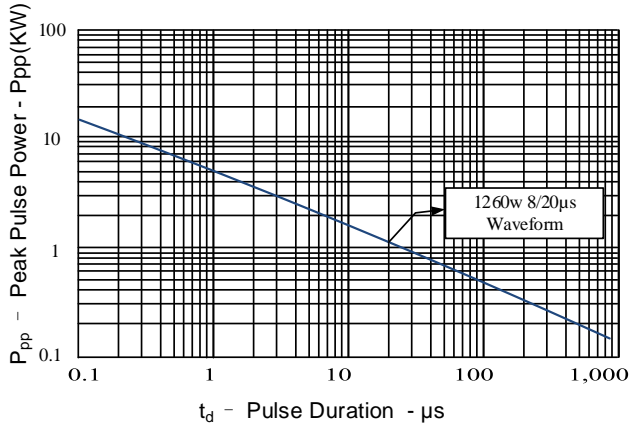


Figure 2: Power Derating Curve

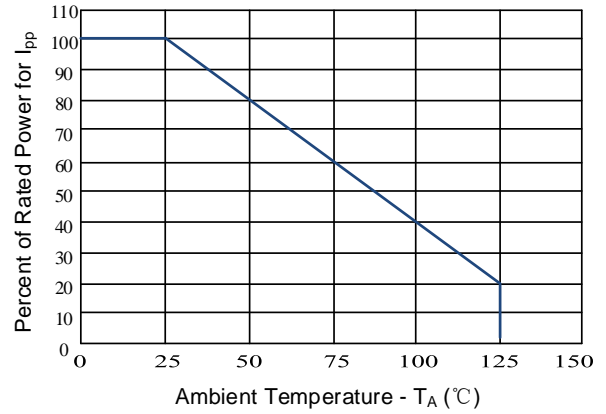


Figure 3: Clamping Voltage vs. Peak Pulse Current

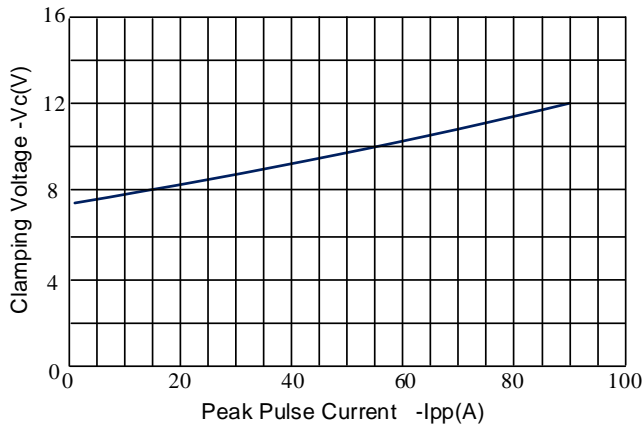


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

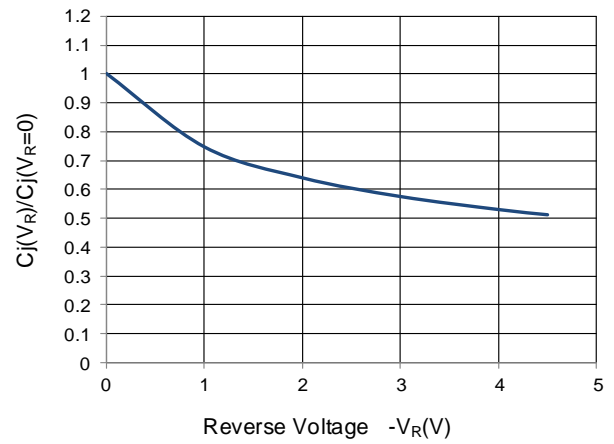


Figure 5: 8/20µs Pulse Waveform

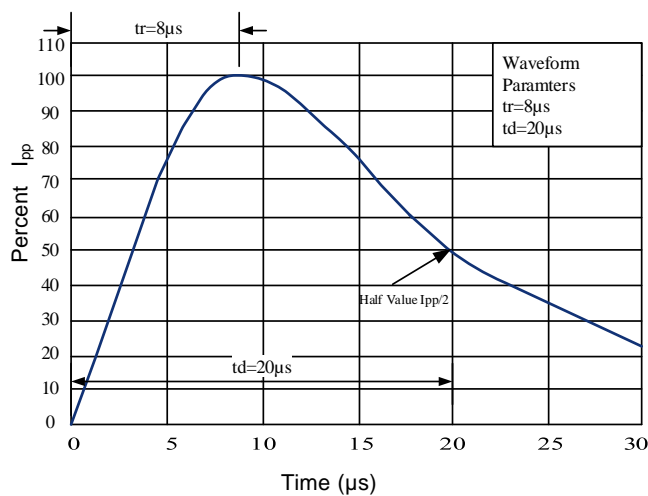
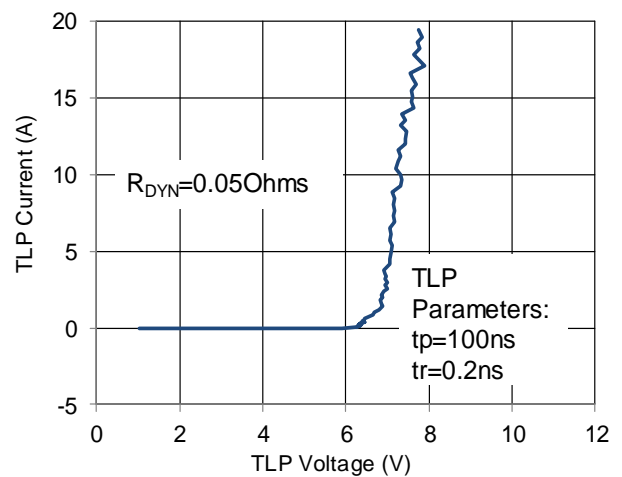
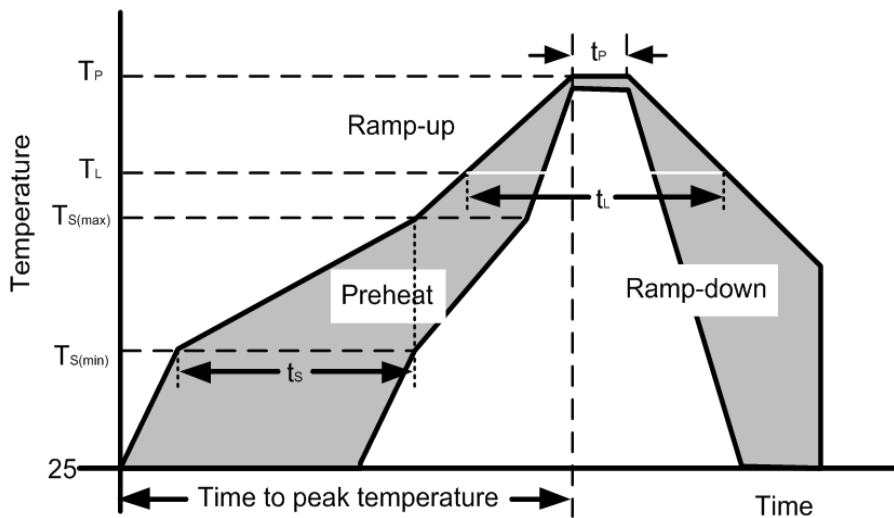


Figure 6: TLP Curve

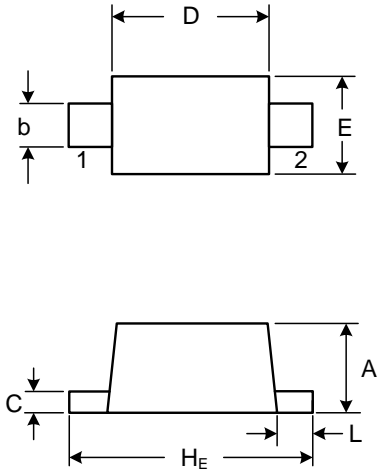
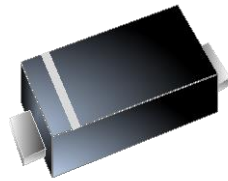
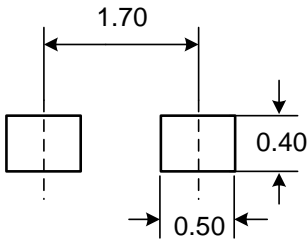


Soldering Parameters


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>PACKAGE OUTLINE</p> 	 <p>SOD-323F</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="3">MILLIMETER</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>	SYMBOL	MILLIMETER			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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 <p style="text-align: center;">DIMENSIONS: MILLIMETERS</p>	<p>Notes: Controlling Dimension: Millimeter.</p>																																			

Marking Codes

Part Number	Marking Code
WS4.5D3HP	 <p style="font-size: small; margin-top: 5px;">H=Specific Device Code X=Annual production times</p>

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

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 WAYON website: <http://www.way-on.com>
 For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
 Users should verify actual device performance in their specific applications.

单击下面可查看定价，库存，交付和生命周期等信息

[>>WAY-ON\(维安\)](#)