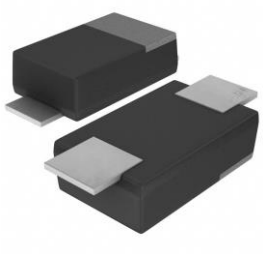
WS15P4S1-BH

Power Transient Voltage Suppressor

Features

- Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Low clamping voltage
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder: 260℃/10 seconds at terminal



SOD-123

Mechanical Characteristics

- SOD-123 package
- Matte tin lead – free plated
- Marking: Marking Code
- RoHS Compliant

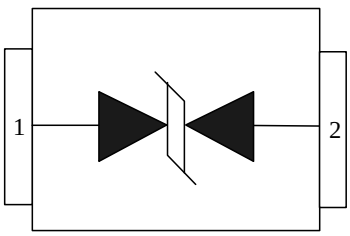
Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Industrial Electronics

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak pulse power (8/20μs)	P_{PP}	5500	W
Peak pulse current (8/20μs)	I_{PP}	250	A
Operating Junction Temperature range	T_J	-40 to +125	℃
Storage Temperature range	T_{STG}	-40 to +125	℃

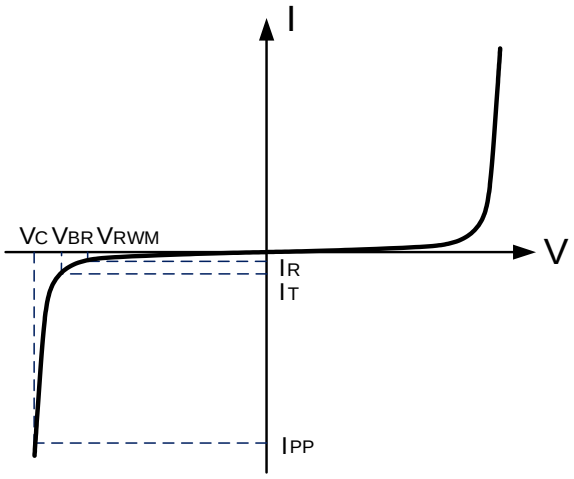
Pin Configuration



©2019 WAYON Corporation

Electrical Characteristics

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



Electrical Characteristics

WS15P4S1-BH						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				15	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	16		19	V
Reverse Leakage Current	I_R	V_{RWM}=15V, T=25°C			1	μA
Clamping Voltage	V_C	I_{PP}=250A, t_p=8/20μs			25	V
Junction Capacitance	Cj	VBIAS=0V, f=1MHz		450		pF

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

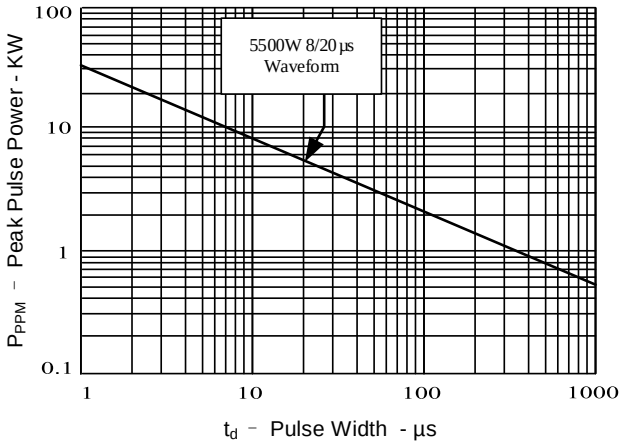


Figure 2: Pulse Derating Curve

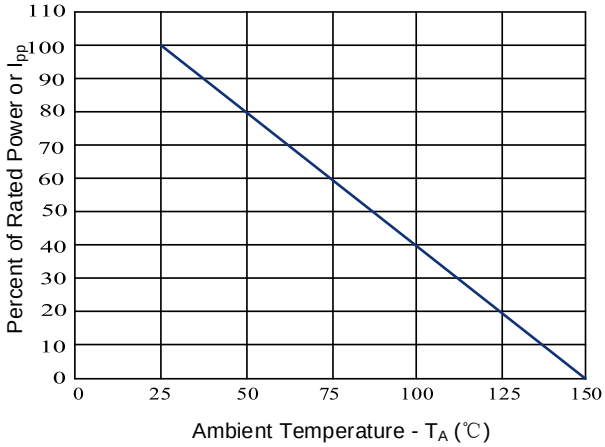
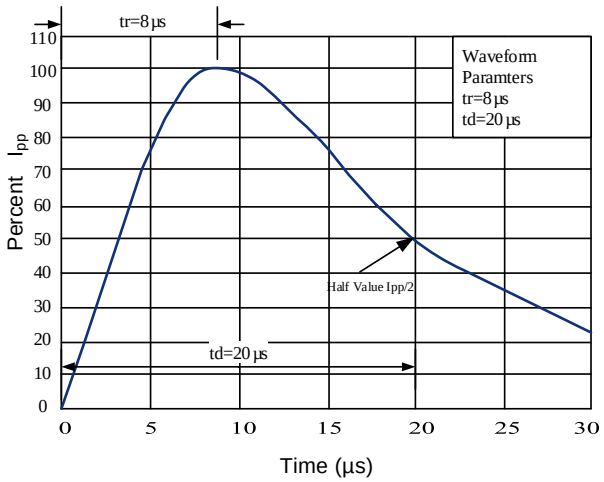
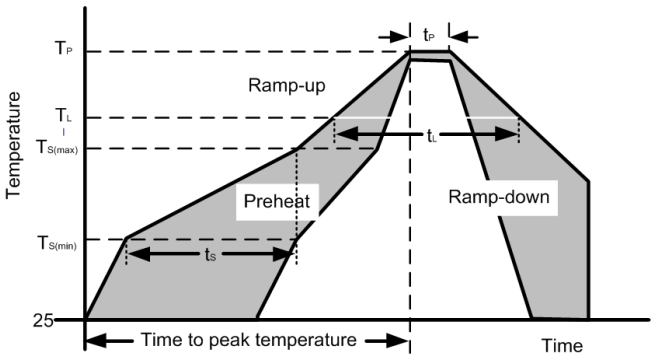


Figure 3: 8/20μs Pulse Waveform



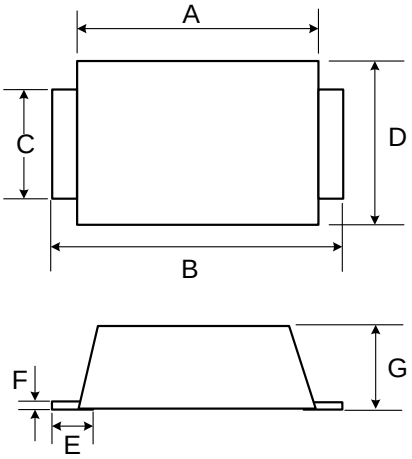
Recommended Soldering Parameters

Reflow Condition		
Pre-Heat	Temperature min ($T_{s(min)}$)	150°C
	Temperature max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60-190 s
Average ramp up rate (Liquidus Temp) (T_L) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60-150 s
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within actual peak Temperature (t_p)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (T_P)		8 minutes max
Do not exceed		260°C

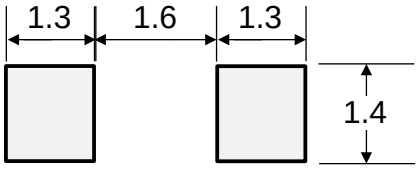


Outline Drawing – SOD-123

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.50	2.95
B	3.40	3.95
C	0.70	1.10
D	1.50	1.90
E	0.45	0.95
F	0.05	0.26
G	0.90	1.05



Recommended Solder Pad Layout



Dimensions in mm

Marking Code



Package Information

Package Type	Description	Quantity（pcs）
SOD-123	Tape & Reel -8mm/7″ tape	3000

Contact Information

No.1001, Shiwan(7) Road, Pudong District, Shanghai, P.R.China.201207
Tel: +86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.com
WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.

WAYON ® is registered trademarks of Wayon Corporation.

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.