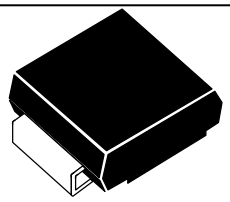
WS15P10SMB-BS

Power Transient Voltage Suppressor

Features

- 1000 watts Peak Pulse Power (10/1000μs)
- Bidirectional Protection
- Fast Response Time: Typically < 1ns
- Excellent Clamping Capability
- Built-in Strain relief
- Low inductance
- Low profile package
- IEC 61000-4-2 (ESD) ±30kV(air), ±30kV(contact)
- MSL: Level 1



SMB
(JEDEC DO-214AA)

Mechanical Characteristics

- JEDEC DO-214AA package
- Molding compound flammability rating: UL 94V-0
- Marking : See Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS & HF Compliant

Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

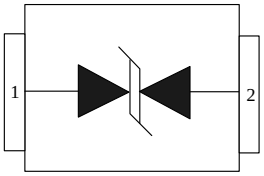
Absolute Maximum Rating (T_A=25℃ unless otherwise noted)			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power (tp =10/1000μs) (see Note1,2)	P_{PPM}	1000	Watts
Peak pulse current (10/1000μs) (see Note2)	I_{PP}	40.98	A
Non-repetitive peak impulse Voltage 1.2/50-8/20μs 2Ω	V_{PPSM}	2000	V
Power Dissipation on infinite heat sink T_L = 50 °C (Fig4)	P_D	6.5	W
Operating Junction Temperature range	T_J	-55 to + 150	℃
Storage Temperature range	T_{STG}	-55 to + 150	℃

Note1: Peak Pulse Power Rating as Pulse Width, per Fig1.

Note2: Peak Pulse Power or Current Derated above T_A=25℃ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

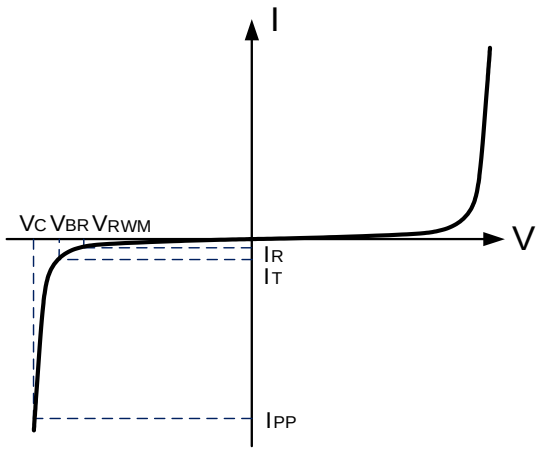
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Pin Configuration



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



WS15P10SMB-BS					
Parameter	**Symbol**	**Conditions**	**Minimum**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}			15	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	16.7	18.5	V
Reverse Leakage Current	I_R	V_{RWM}=15V, T_A=25°C		1	μA
Clamping Voltage	V_C	I_{PP}=40.98A, t_p=10/1000μs		24.4	V
Clamping Voltage	V_C	V_{PPSM}=2000V, t_p=1.2/50-8/20μs 2Ω		35	V

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

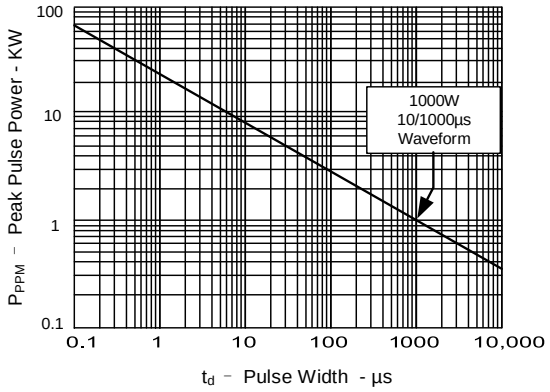


Figure 2: Pulse Derating Curve

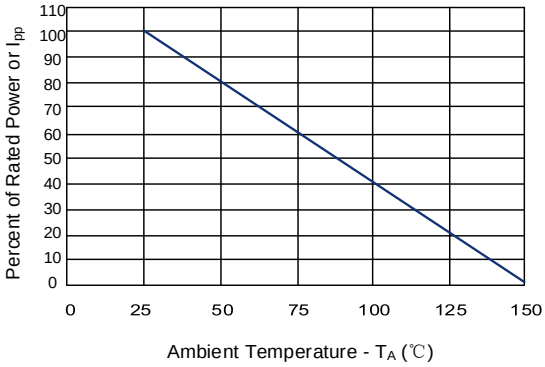


Figure 3: Pulse Waveform

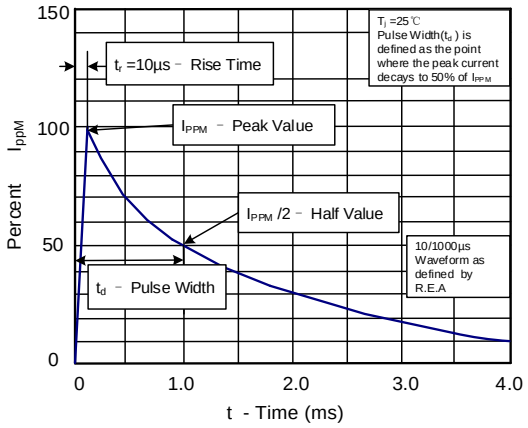
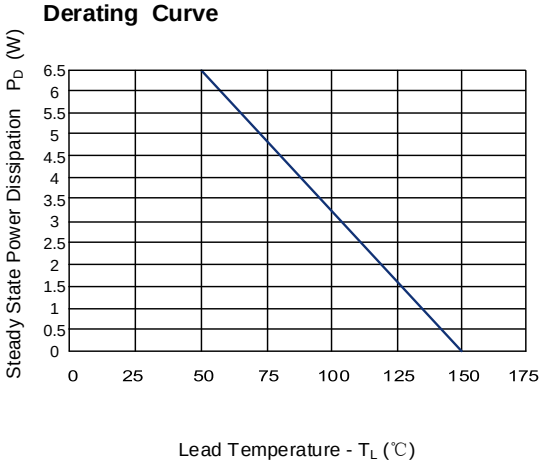


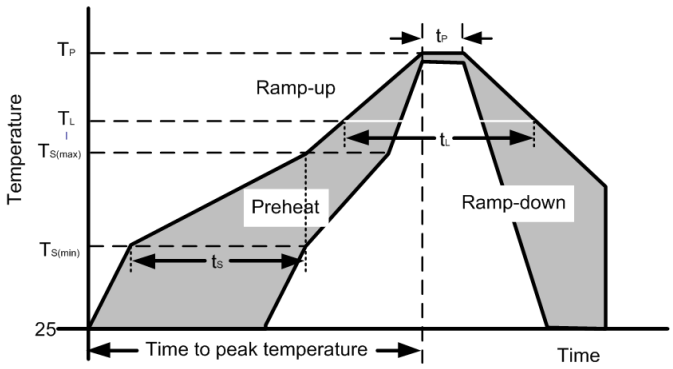
Figure 4: Steady State Power Dissipation Derating Curve



Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

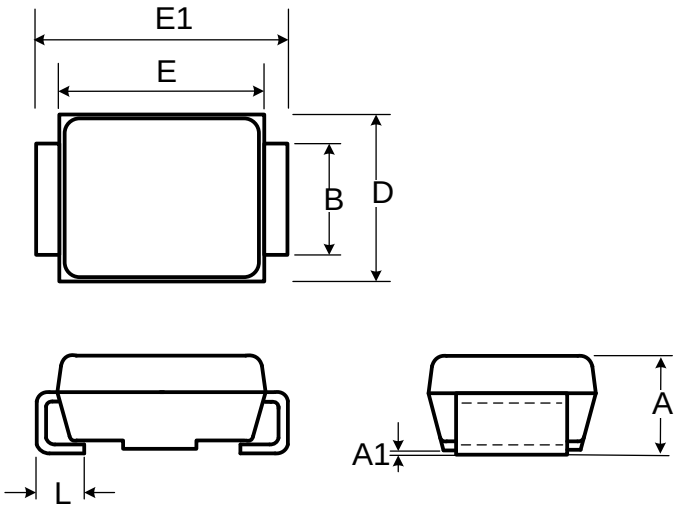
Soldering Parameters

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

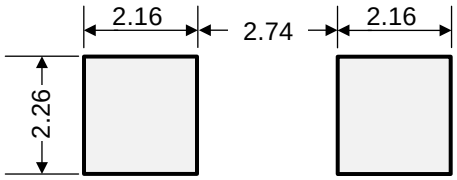


Outline Drawing – SMB(DO-214AA)

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.130	2.600
A1	-	0.300
B	1.900	2.200
E	4.100	4.750
E1	5.210	5.590
D	3.300	3.940
L	0.760	1.520

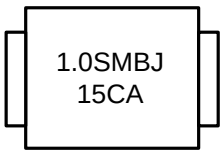


Recommended Solder Pad Layout



Dimensions in mm

Marking Code

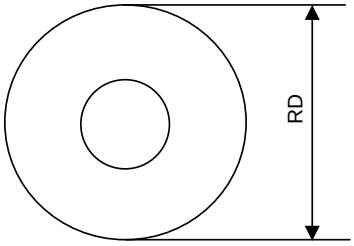


Package Information

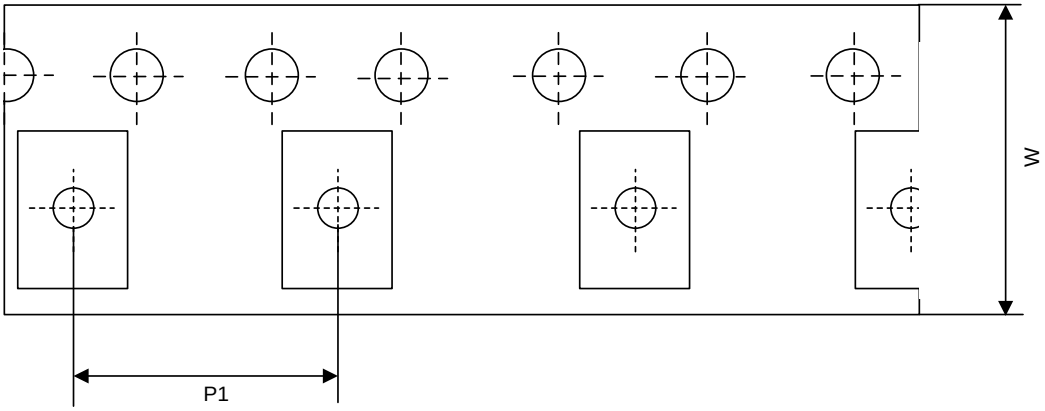
Package Type	Description	Quantity（pcs）
SMB(DO-214AA)	Tape & Reel -12mm/13″ tape	3000

Tape and Reel Information

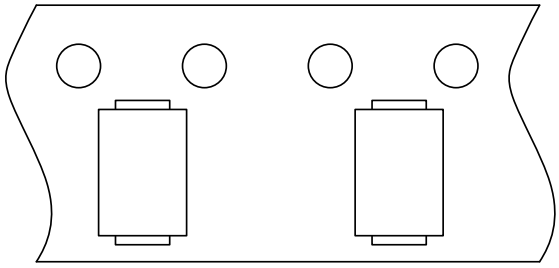
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape





User Direction of Feed

Top View

RD	Reel Dimensions	13 inch
W	Overall width of the carrier tape	12 mm
P1	Pitch between successive cavity centers	8 mm

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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The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

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