

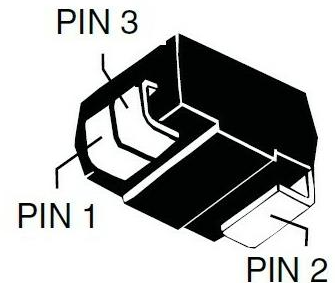


WEOS4-100/XXAS-3

Thyristor Surge Protector

Features

- Bi-directional crowbar transient voltage protection
- High surge capability
- High off-state impedance, Low leakage current
- Short-circuit failure mode
- Low on-state voltage
- RoHS & HF compliant
- MSL: Level 1



Main Application

- Data lines and security systems.
- CATV line amplifiers and power inserters.
- Sprinkler systems.

Absolute Maximum Ratings (TA =25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Non-repetitive peak impulse current 10/1000 μ s (Telcordia GR-1089-CORE)	I_{PPSM}	100	A
Non-repetitive peak impulse Voltage 10/700 μ s (ITU-T K.20, K.21 & K.44, K.45)	V_{PPSM}	6000	V
Operating Junction Temperature range	T_J	-40 to + 125	°C
Storage Temperature range	T_S	-55 to + 150	°C

Electrical Parameters (TA =25°C unless otherwise noted)

Part Number	Marking code	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	V_T	I_T	C_o	I_H
		Max.	Max.	Max.	Max.	Max.	Max.	Typ.	Min.
		V(PIN 1,3-2)	μ A	V(PIN 1,3-2)	mA	V	A	pF	mA
WEOS4-100/25AS-3	W03S3C	25	5	40	800	4	2.2	110	50
WEOS4-100/58AS-3	W06S3C	58	5	77	800	4	2.2	100	120
WEOS4-100/65AS-3	W07S3C	65	5	88	800	4	2.2	40	120

V_{DRM} : Stand-off voltage.

I_{DRM} : Leakage current at V_{DRM} .

V_{BO} : Breakover voltage, is measured at $100V/\mu s$.

I_{BO} : Breakover current.

V_T : On-state voltage.

I_T : On-state current.

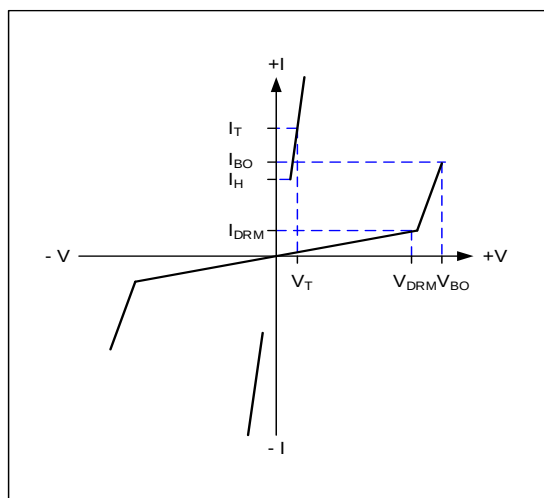
C_o : Off-state capacitance.

I_H : Holding current.

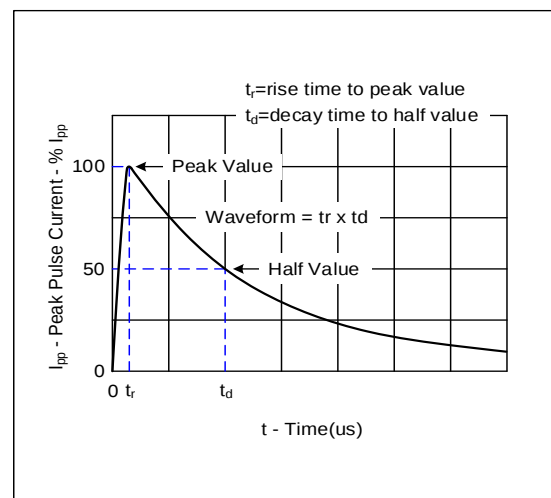
General Notes:

- All measurements are made at an ambient temperature of 25 °C. I_{PP} applies to -40 °C through +85 °C temperature range.
- WEOS4 devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- Special voltage (V_{BO} and V_{DRM}) and holding current (I_H) requirements are available up on request. Off-state capacitance is measured at 1 MHz with a 2 V bias.

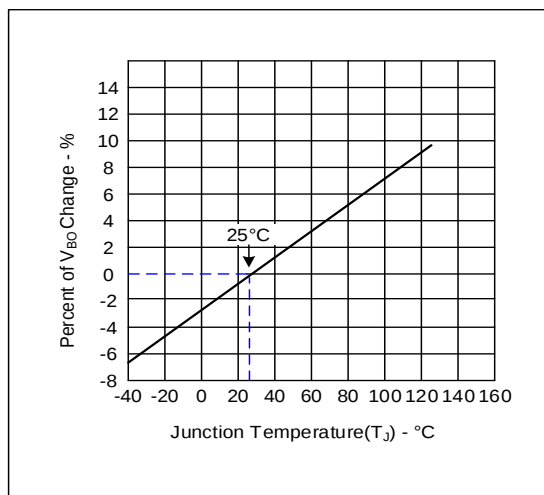
Electrical Characteristics Curves



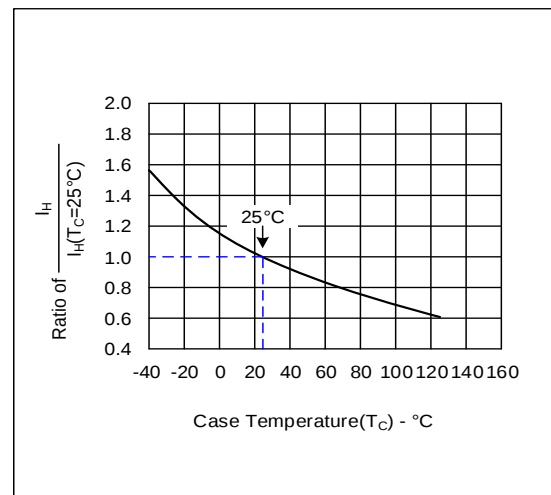
V - I Characteristics



$t_r \times t_d$ Pulse Waveform



Normalized V_{BO} Change versus Junction Temperature

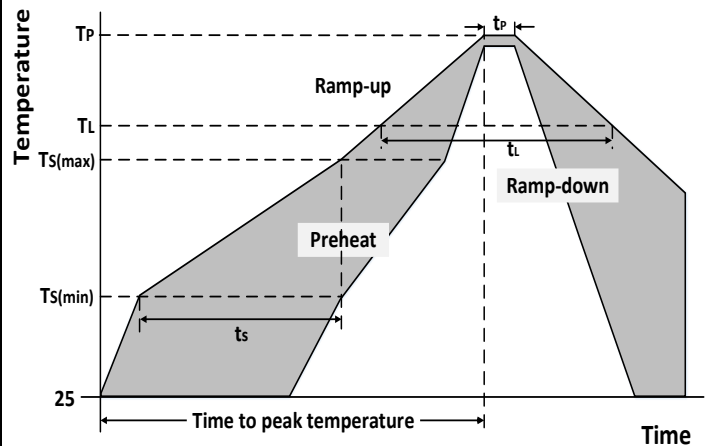


Normalized DC Holding Current versus Case Temperature

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.

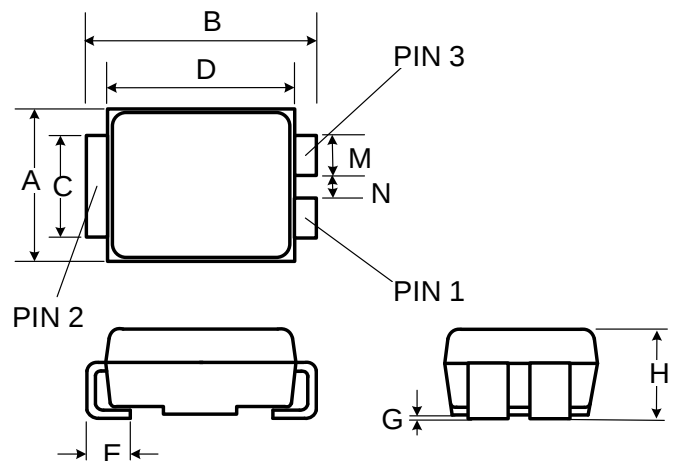
Soldering Parameters

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
$T_{s(max)}$ to T_L - 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

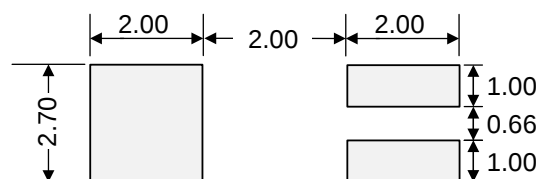


Product Dimensions

Ref. (mm)	Millimeters	
	Min.	Max.
A	3.30	3.94
B	5.21	5.59
C	1.90	2.20
D	4.10	4.75
E	0.76	1.52
G	0.05	0.30
H	1.95	2.65
M	0.50	0.75
N	0.50	0.85

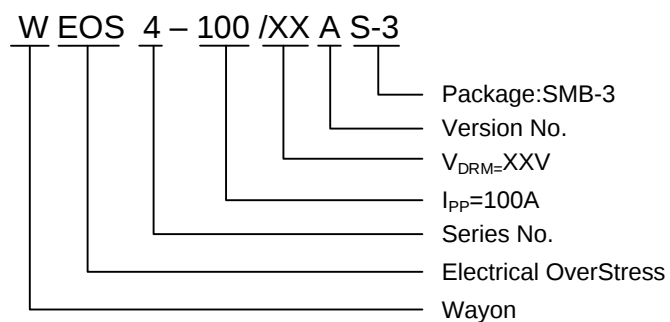


Recommended Solder Pad Layout

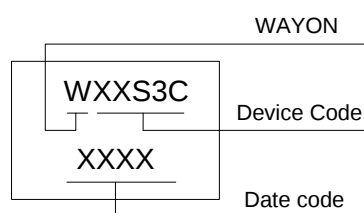


Dimensions in mm

Part Numbering System



Part Marking System

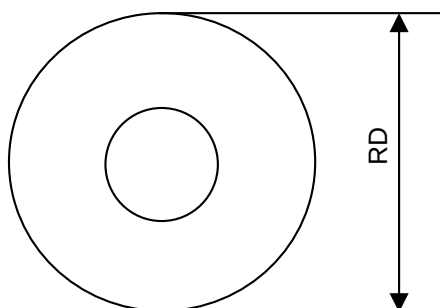


Package Information

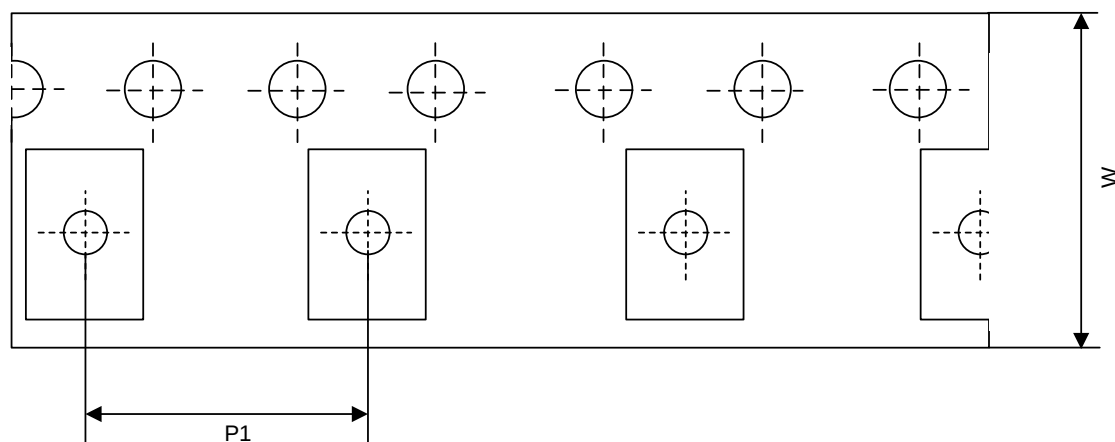
Package Type	Description	Quantity (pcs)
SMB-3	Tape & Reel Pack	2500

Tape and Reel Information

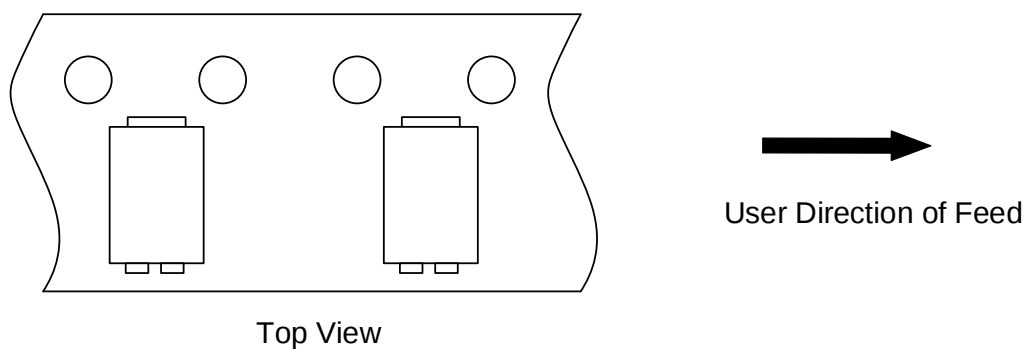
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



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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Product Specification Statement

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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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Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

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