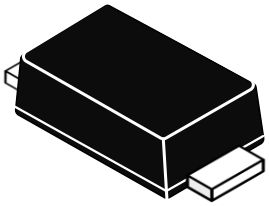
WEOS4-50/25AS1

Thyristor Surge Protector

Features

- Integrated Bi-directional thyristor for Surge Protection
- Ultra-low clamp voltage
- High surge capability
- High off-state impedance
- Low leakage current
- MSL: Level 1



SOD-123FL

Main Application

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

Symbol

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum rated peak impulse current 10/1000 μs (Telcordia GR-1089-CORE)	I_{PPSM}	35	A
Maximum rated peak impulse Voltage 10/700 μs (ITU-T K.20, K.21 & K.44, K.45)	V_{PPSM}	2000	V
Operating Junction Temperature range	T_J	-40 to + 125	℃
Storage Temperature range	T_S	-55 to + 150	℃

Electrical Characteristics (T_A=25℃)

Part Number	I_{DRM}@V_{DRM}		V_{BO}@ I_{BO}		I_T@V_T		I_H	Co
	Max	Min	Max	Max	Max	Max	Min	Typ.
WEOS4-50/25AS1	μA	V	V	mA	A	V	mA	pF
	5	25	40	800	2.2	4	40	35

V_{DRM}: Stand-off voltage is measured at IDRM.

I_{DRM}: Leakage current at VDRM.

V_{BO}: Breakover voltage is measured at 100V/μs.

I_{BO}: Breakover current.

V_T: On-state voltage.

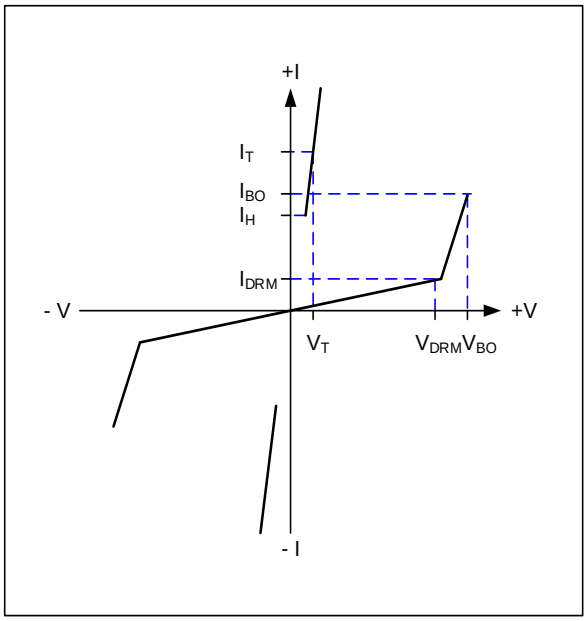
I_T: On-state current.

C_O: Off-state capacitance.

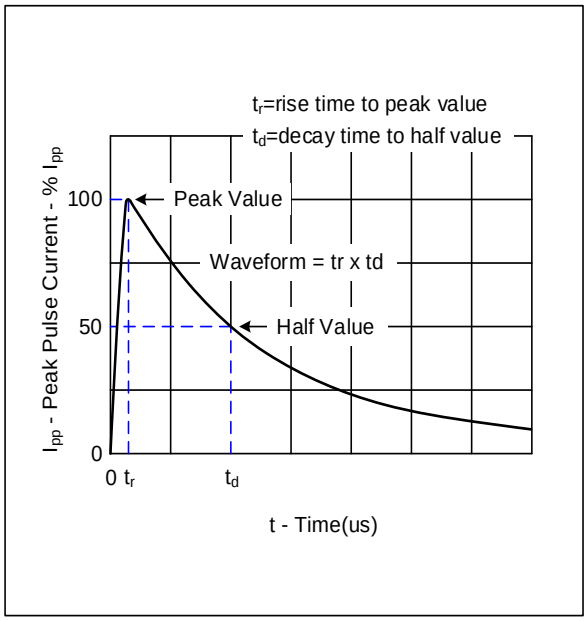
I_H: Holding current.

General Notes:

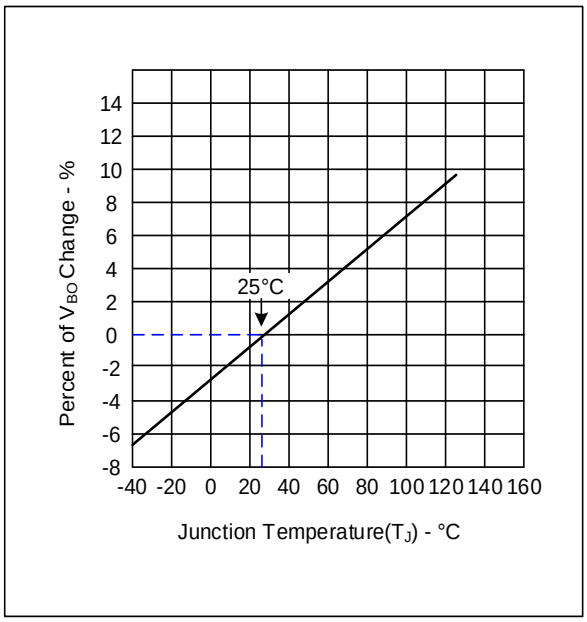
- All measurements are made at an ambient temperature of 25 °C. I_{PP} applies to -40 °C through +85 °C temperature range.
- WEOS4 devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- Special voltage (V_{BO} and V_{DRM}) and holding current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



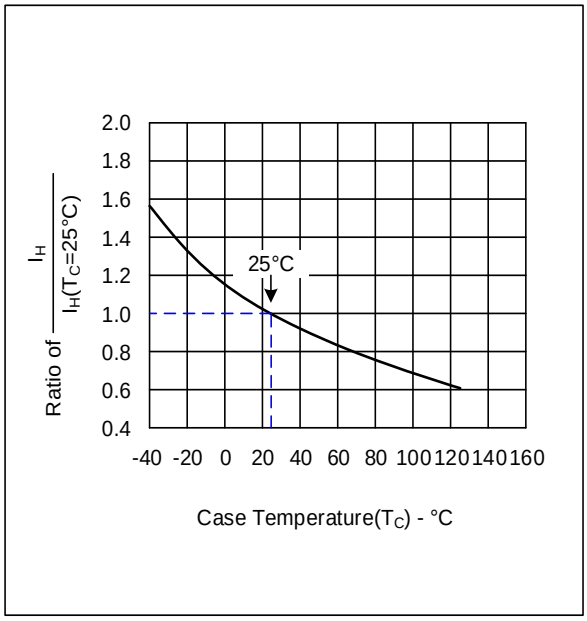
V - I Characteristics



t_r X t_d Pulse Waveform



Normalized V_{BO} Change versus Junction Temperature

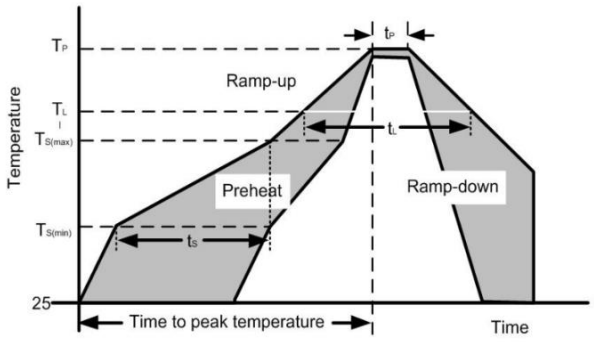


Normalized DC Holding Current versus Case Temperature

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.

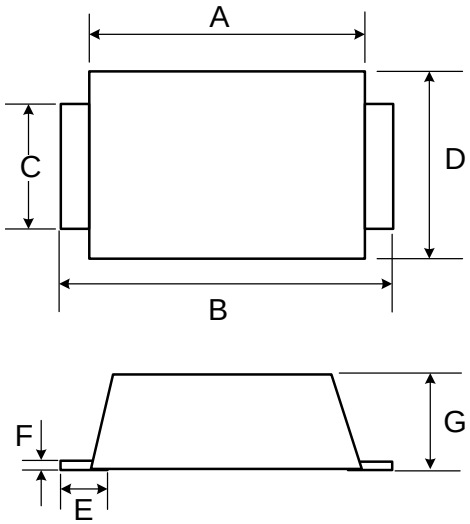
Soldering Parameters

Reflow Condition		
Pre Heat	Temperature Min ($T_{s(min)}$)	+150°C
	Temperature Max ($T_{s(max)}$)	+200°C
	Time (min to max) (t_s)	60-180 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)		30 s Max.
Ramp-down Rate		6°C/s Max.
Time 25°C to peak Temperature (T_P)		8 mins Max.
Do not exceed		+260°C

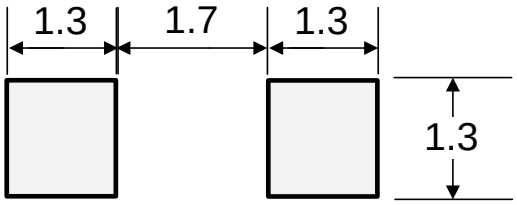


Product Dimension

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.50	3.00
B	3.40	3.95
C	0.70	1.20
D	1.50	2.00
E	0.30	0.95
F	0.05	0.26
G	0.70	1.35

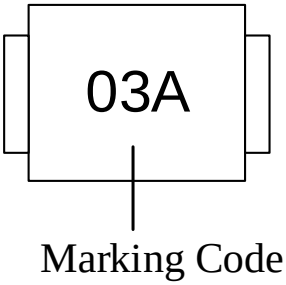


Recommended Solder pad layout



Dimensions in mm

Marking Code

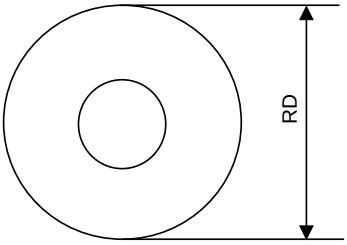


Package Information

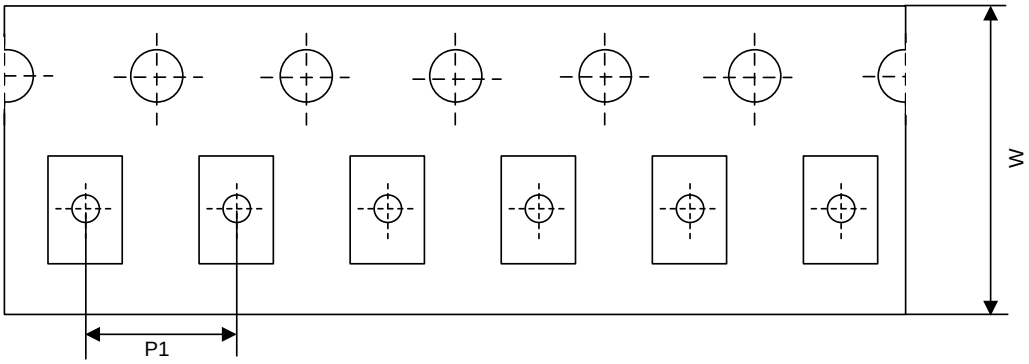
3000 Pcs/Reel

Tape and Reel Information

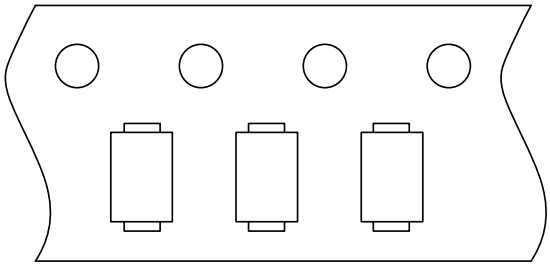
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



User Direction of Feed

Top View

RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4 mm

Contact Information

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Product Specification Statement

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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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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