

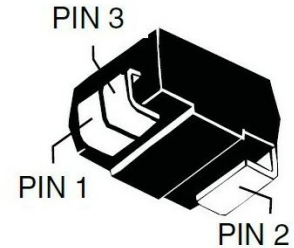


WEOS4-50/120AS-3

Thyristor Surge Protector

Features

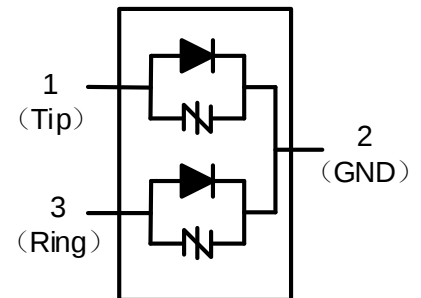
- Single port protection in one package.
- Low voltage overshoot.
- Low on-state voltage.
- Short-circuit failure mode
- RoHS & HF compliant
- MSL: Level 1



Description

This SIDACtor thyristor is designed to protect SLICs (Subscriber Line Interface Circuit) from damaging overvoltage transients. These components provide single port protection implementing voltage switching characteristics for negative polarity surges and a clamping diode for positive polarity surges.

Schematic Symbol



Complies with The Following Standards

YD/T 950
ITU-T K.20, K21
GR-1089-CORE

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
I _{pp}	Non-repetitive peak on-state pulse current		
	10/1000μs	45	A
	5/320μs	75	
	8/20μs	150	
	2/10μs	150	
T _s T _j	Storage temperature range Junction temperature	-55~150 -40~125	°C
R _{θJA}	Junction to Ambient	85	°C/W

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	I_{T}	V_{T}	V_{F}	I_{H}	Co Pin1/3- Pin2	Co Pin1-Pin3
	Min	Max	Max	Max	Max	Max	Max	Min	Max	Max
	V	μA	V	mA	A	V	V	mA	pF	pF
WEOS4- 50/120AS-3	120	5	160	800	2.2	4	5	120	50	30

V_{DRM} : Stand-off voltage.

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

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

I_{BO} : Breakover current.

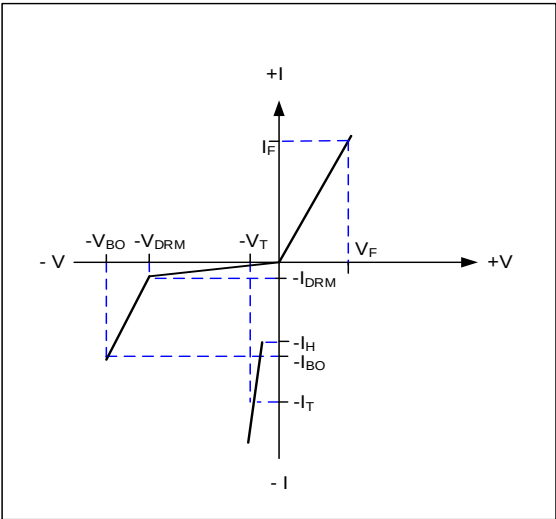
V_{T} : On-state voltage.

I_{T} : On-state current.

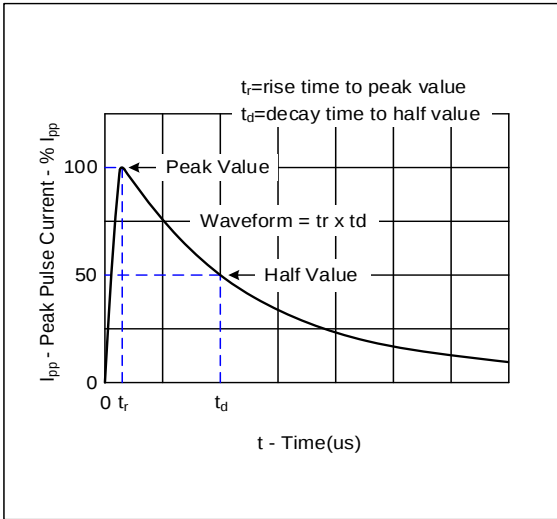
C_o : Off-state capacitance, measured at 1MHz with 2V bias.

I_{H} : Holding current.

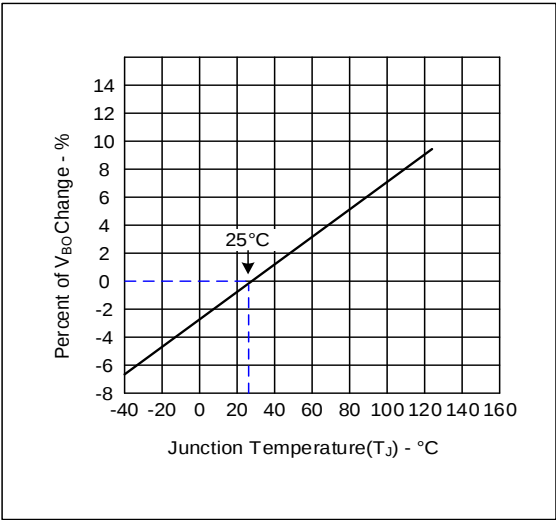
Electrical Characteristics Curves



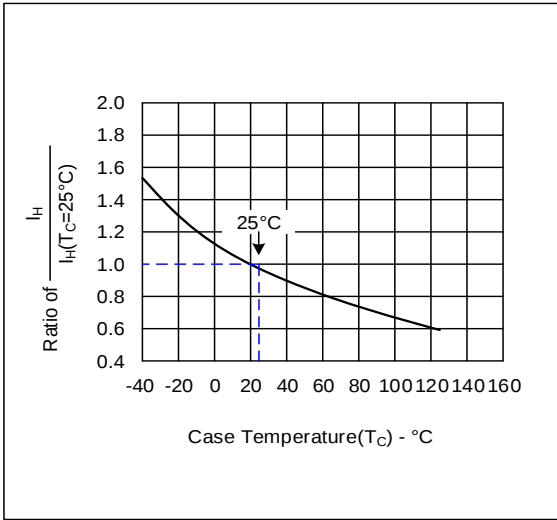
V - I Characteristics



$t_r \times t_d$ Pulse Waveform



Normalized V_{BO} Change versus Junction Temperature

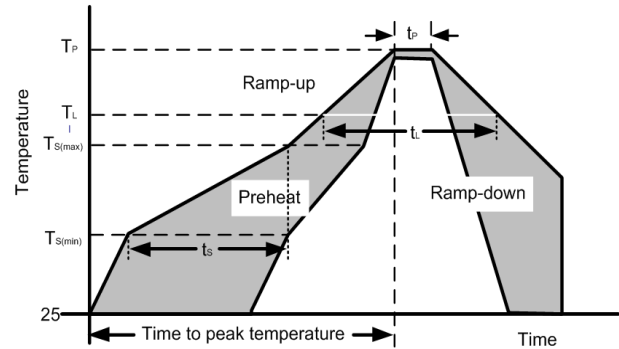


Normalized DC Holding Current versus Case Temperature

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.

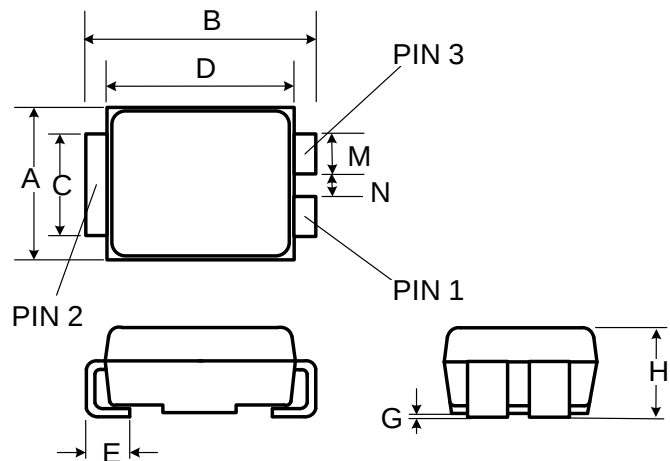
Soldering Parameters

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

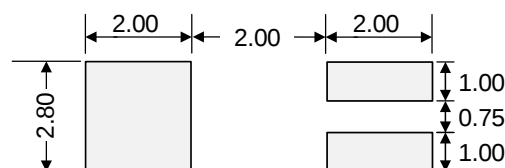


Product Dimensions

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	0.45	0.70
N	0.70	0.90

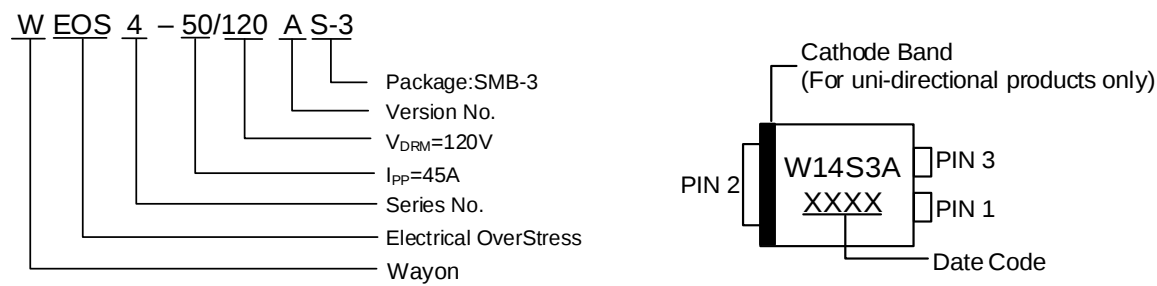


Recommended Solder pad layout



Dimensions in mm

Part Numbering System and Marking

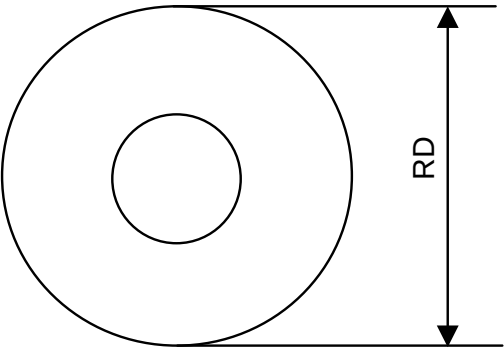


Package Information

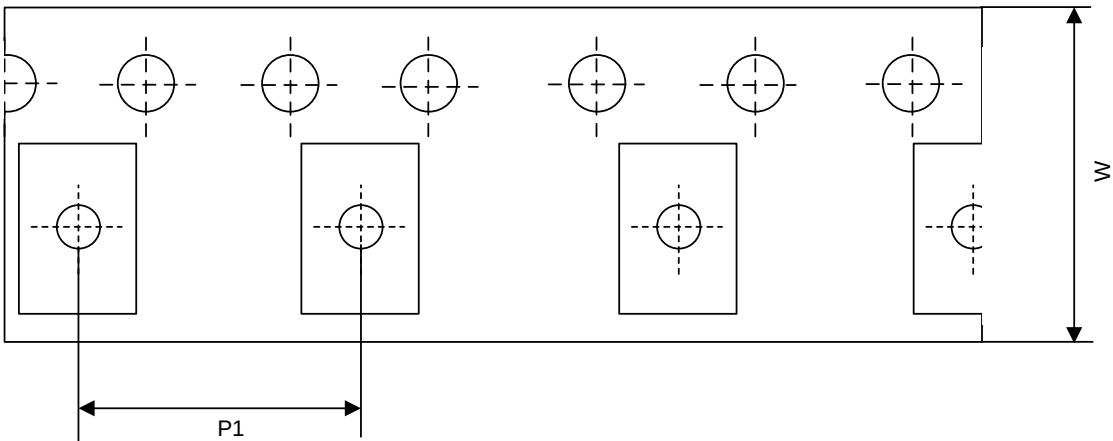
Package Type	Description	Quantity (pcs)
SMB-3	Tape & Reel	2500

Tape and Reel Information

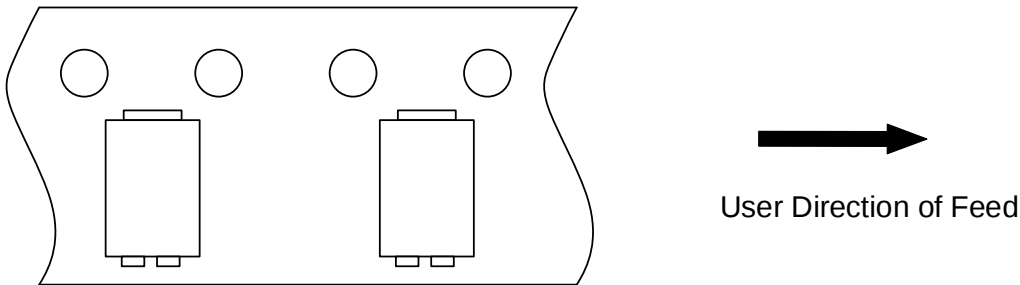
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



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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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.

WAYON strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, WAYON cannot guarantee that the information provided in the product specification is entirely accurate and error-free. WAYON shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications. WAYON reserves the right to revise or update the product specification and the products at any time without prior notice, and the user's continued use of the product specification is considered an acceptance of these revisions and updates. Prior to purchasing and using the product, users should verify the above information with WAYON to ensure that the product specification is the most current, effective, and complete. If users are particularly concerned about product parameters, please consult WAYON in detail or request relevant product test reports. Any data not explicitly mentioned in the product specification shall be subject to separate agreement.

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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