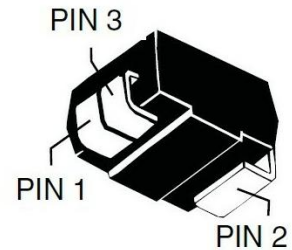


## Thyristor Surge Protector

### Features

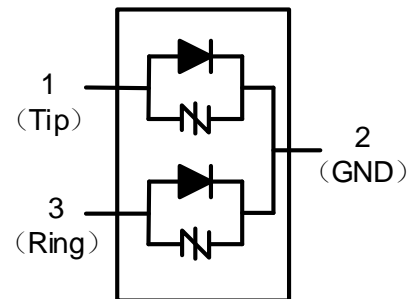
- Single port protection in one package.
- Low voltage overshoot.
- Low on-state voltage.
- Short-circuit failure mode



### Description

This fixed voltage, unidirectional, modified DO-214 SIDACTor thyristor series 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

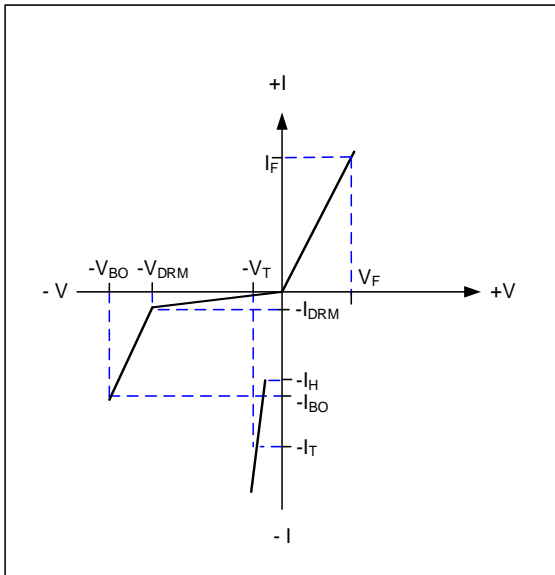
Symbol	Parameter	Value	Unit
I <sub>pp</sub>	Non-repetitive peak on-state pulse current		
	10/1000μs	45	A
	5/320μs	75	
	8/20μs	150	
	2/10μs	150	
T <sub>s</sub>	Storage temperature range	-55~150	
T <sub>J</sub>	Junction temperature	-40~125	
R <sub>θJA</sub>	Junction to Ambient	85	°C/W

Electrical Characteristics (T<sub>A</sub>=25°C)

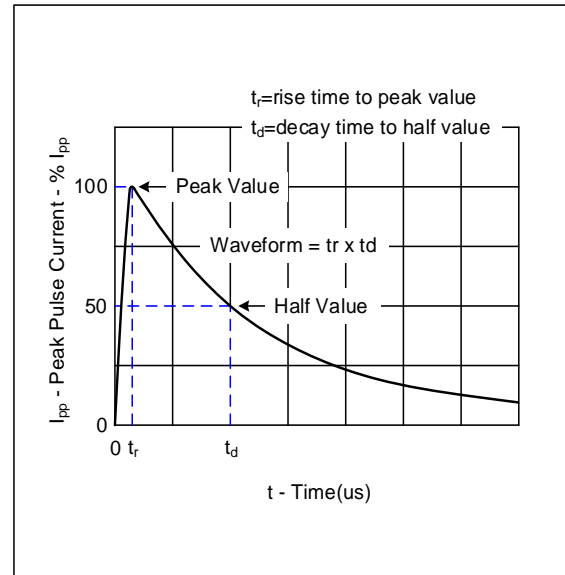
Part Number	I <sub>DRM</sub> @ V <sub>DRM</sub>	V <sub>DRM</sub> @ I <sub>DRM</sub> =5μA	V <sub>BO</sub> @ 100V/μs	I <sub>BO</sub>	I <sub>T</sub> @V <sub>T</sub>	V <sub>T</sub> @I <sub>T</sub> =2.2 Amps	V <sub>F</sub>	I <sub>H</sub>	Co* Pin1/3-Pin2	Co* Pin1-Pin3
	μA max	Vmin	Vmax	mA max	Amax	Vmax	Vmax	mA min	pF max	pF max
WEOS4-50/120AS-3	5	120	160	800	2.2	4	5	120	50	30

\*Note:Off-state capacitance (Co) is measured at 1MHz with a 2V bias.

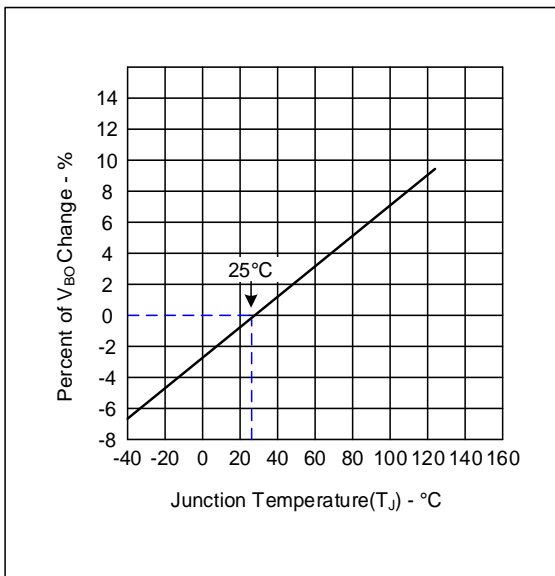
Electrical Characteristics Curves



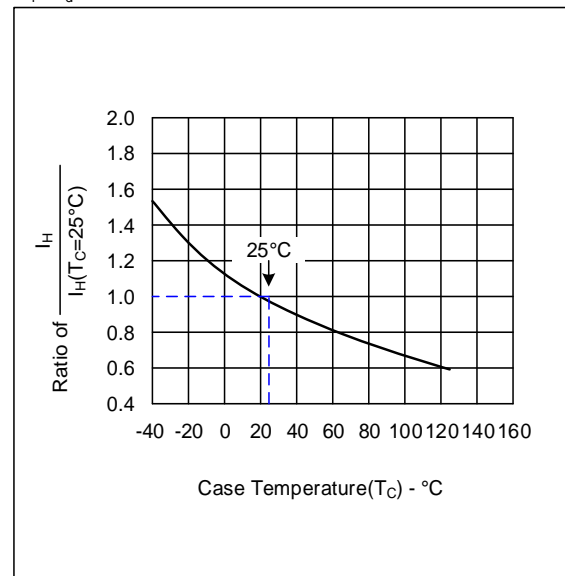
V - I Characteristics



t<sub>r</sub> X t<sub>d</sub> Pulse Waveform



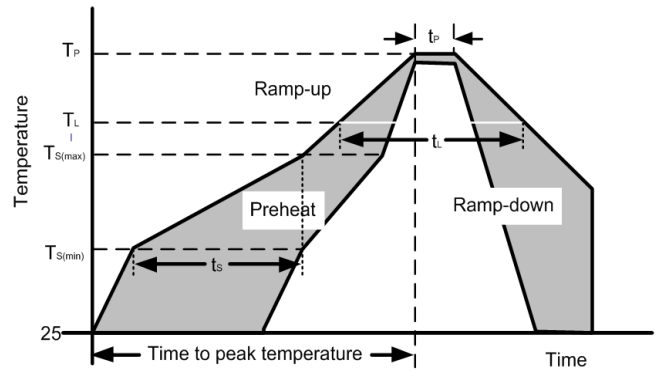
Normalized V<sub>BO</sub> Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature

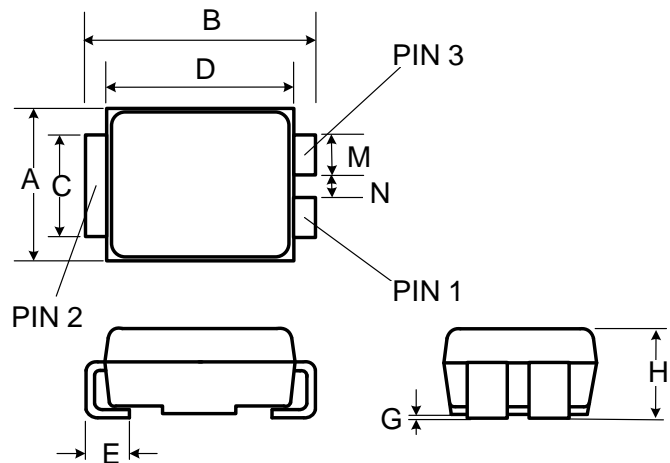
**Soldering Parameters**

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 <sup>+0/-5</sup> °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

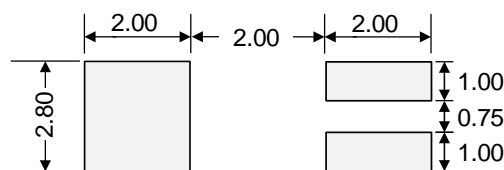


**Product Dimensions**

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

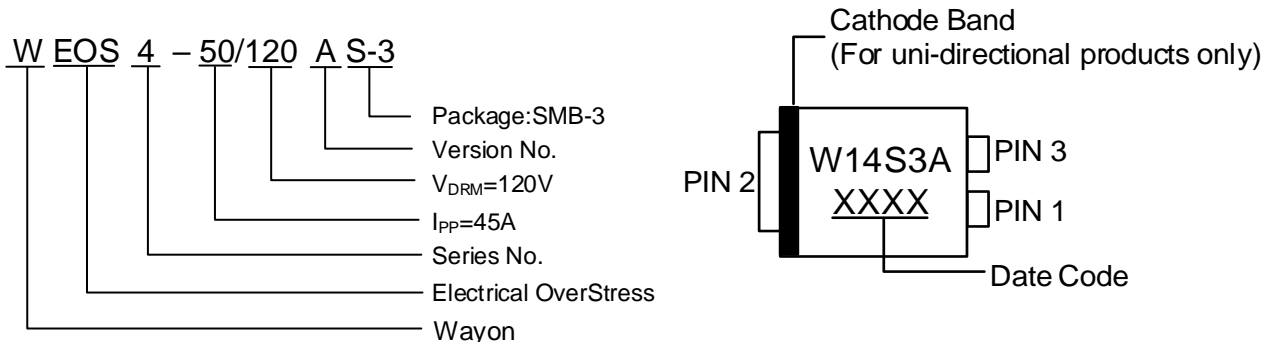


**Recommended Solder pad layout**



Dimensions in mm

## Part Numbering System and Marking



## Package Information

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

## Contact Information

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For additional information, please contact your local Sales Representative.

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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.*