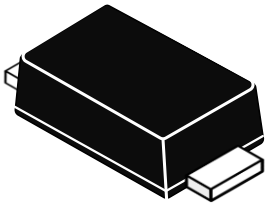
WES306S1

Thyristor Surge Protector

Features

- Integrated Bi-directional thyristor for Surge Protection
- High surge capability
- High off-state impedance
- Low leakage current
- Short-circuit failure mode
- 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
Non-repetitive peak impulse current 10/1000 μs (Telcordia GR-1089-CORE)	I_{PPSM}	30	A
Non-repetitive 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 Parameters (T_A=25°C)

Part Number	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	V_T	I_T	I_H	C_O
	Max.	Max.	Max.	Max.	Max.	Max.	Min.	Typ.
	V	μA	V	mA	V	A	mA	pF
WES306S1	6	5	25	800	4	2.2	10	10

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

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

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.

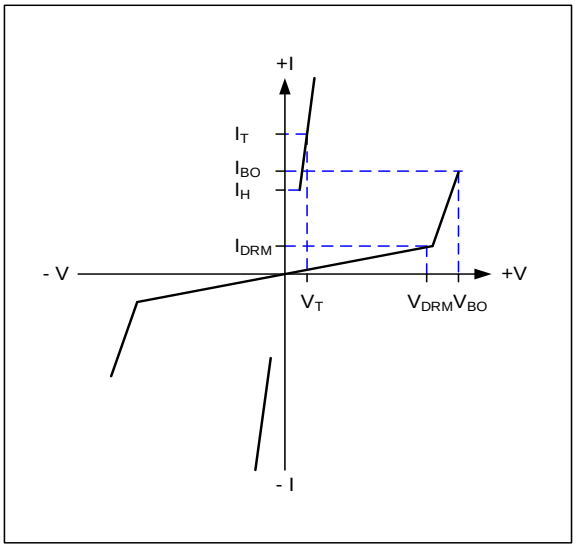
I_{PP}: Peak pulse current, is a repetitive surge rating and is guaranteed for the life of the product.

V_{ppsm}: Peak pulse voltage, is a repetitive surge rating and is guaranteed for the life of the product.

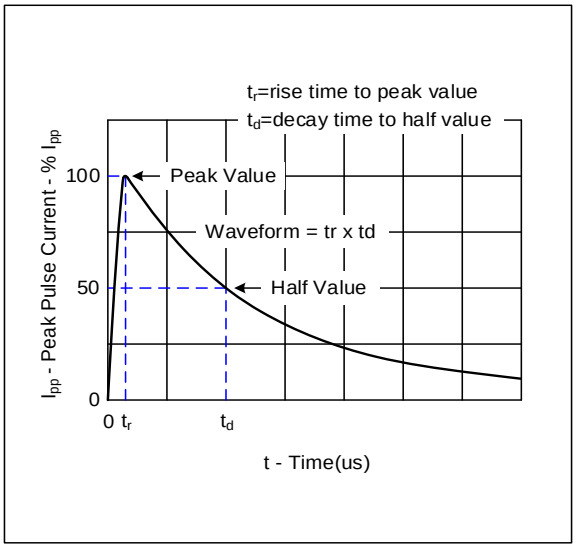
General Notes:

- All measurements are made at an ambient temperature of 25 °C. IPP applies to -40 °C through +85 °C temperature range.
- Listed WES devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- Special voltage (VBO and VDRM) and holding current (IH) requirements are available up on request.
- Off-state capacitance is measured at 1 MHz with a 2 V bias.

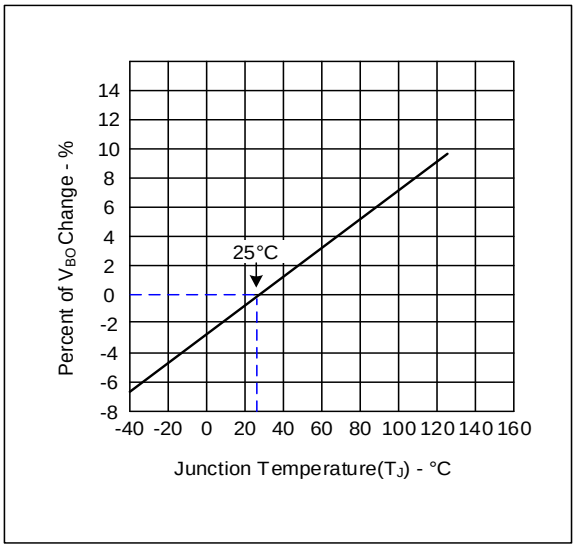
Electrical Characteristics Curves



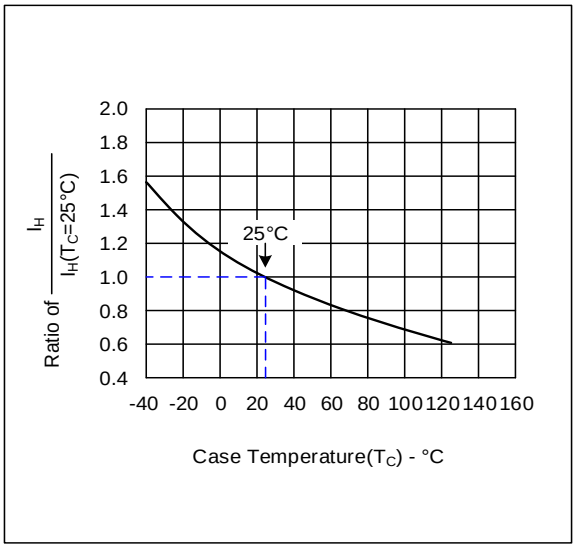
V - I Characteristics



t_r X t_d Pulse Waveform



Normalized V_{BO} Change versus Junction Temperature

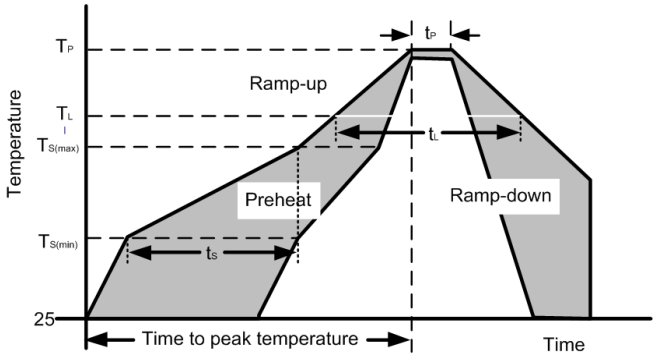


Normalized DC Holding Current versus Case Temperature

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.

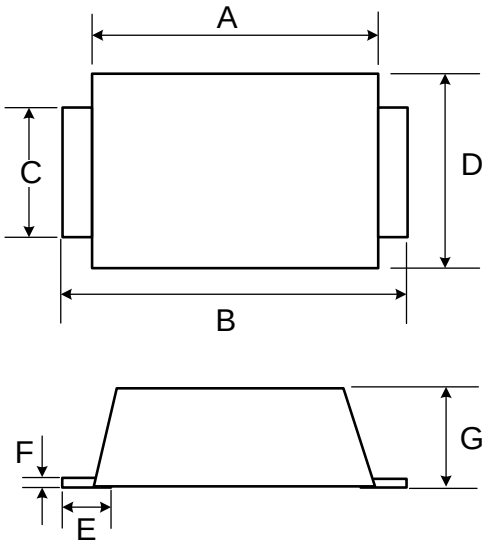
Soldering Parameters

Reflow Condition		
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60-190 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

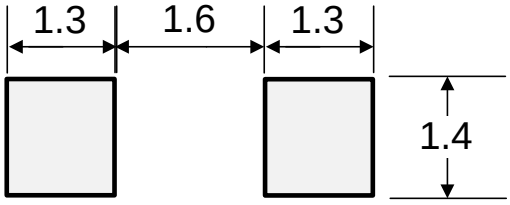


Product Dimensions

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

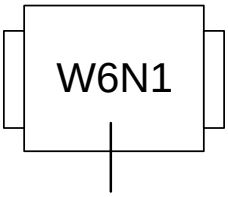


Recommended Solder Pad Layout



Dimensions in mm

Marking Code：



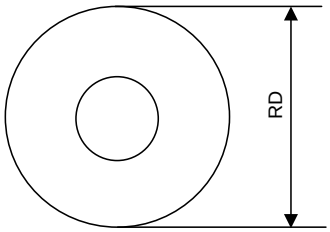
Marking Code

Package Information

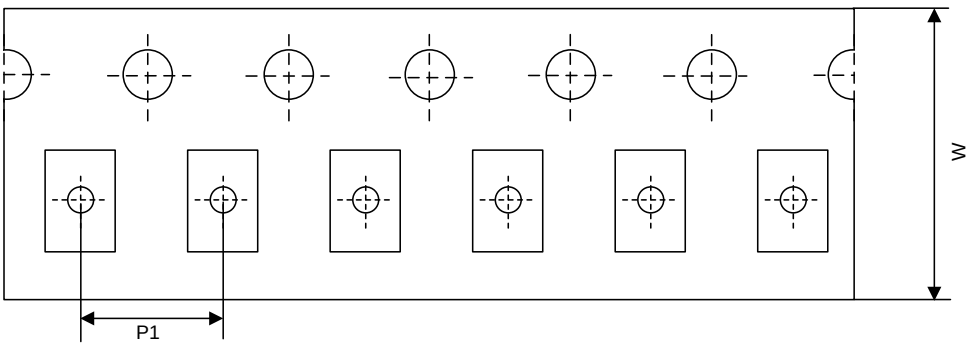
3000 Pcs/Reel

Tape and Reel Information

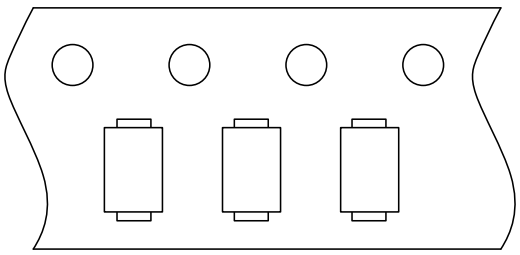
Reel Dimensions



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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