

FEATURES

- | For use in low voltage, high frequency inverters Free wheeling, and polarity protection applications
- | Meet AEC-Q101 Requirements



SOD-323

MECHANICAL DATA

- | Encapsulation: SOD-323 Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any



Marking



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{RM}	Non-Repetitive Peak Reverse Voltage	40	V
V_{RRM}	Peak Repetitive Peak Reverse Voltage		
V_{RWM}	Working Peak Reverse Voltage		
V_R	DC Blocking Voltage	28	
$V_{R(RMS)}$	RMS Reverse Voltage		
I_O	Average Rectified Output Current	1	A
I_{FSM}	Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	10	
I_{FRM}	Repetitive Peak Forward Current	1.5	
P_d	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	400	$^{\circ}\text{C}/\text{W}$
T_J	Junction Temperature	125	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55~+125	

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$)

Symbol	Parameter	Test	Min.	Max.	Unit
V_{BR}	Reverse breakdown voltage	$I_R=1\text{mA}$	40		V
I_R	Reverse voltage leakage current	$V_R=40$		1	mA
V_F	Reverse leakage current	$I_F=1\text{A}$		0.6	V
		$I_F=3\text{A}$		0.9	
C_D	Diode capacitance	$V_F=4\text{V}, f=1\text{MHz}$		120	pF

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

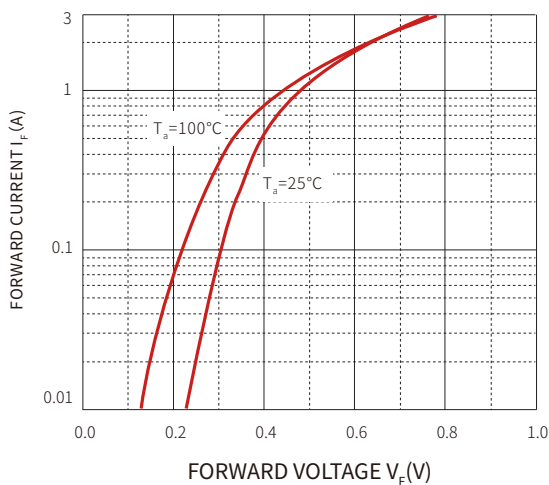


Fig.2 Reverse Characteristics

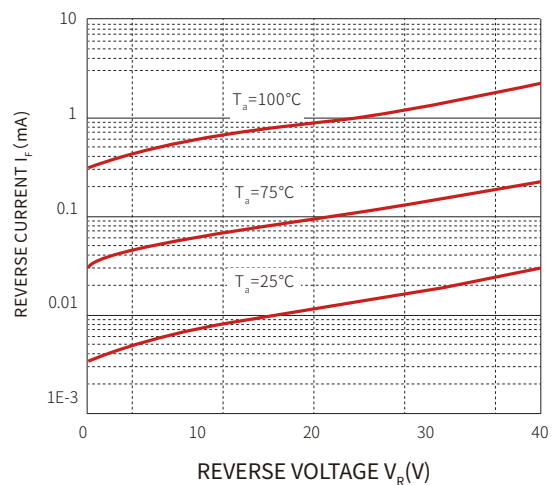


Fig.3 Capacitance Characteristics

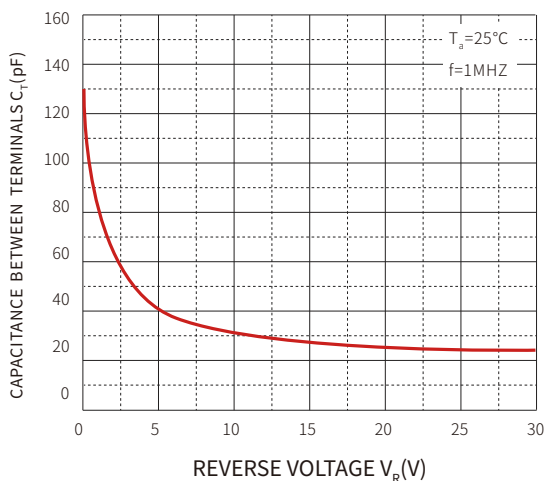
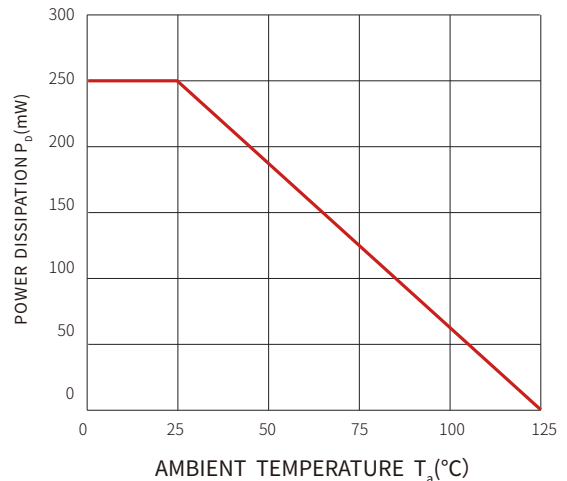
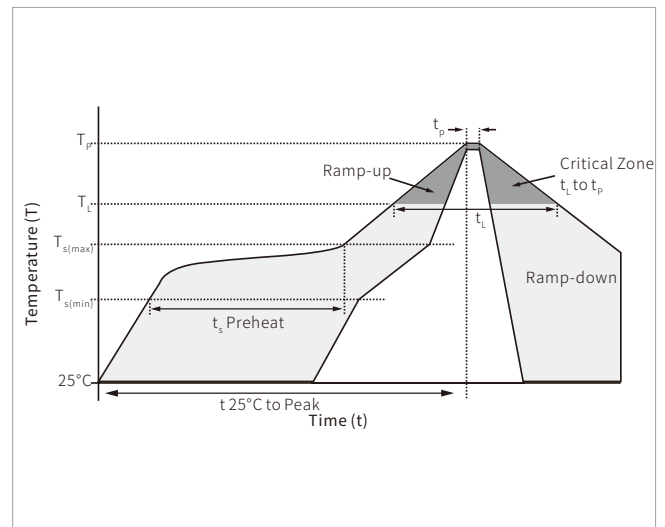


Fig.4 Power Derating Curve

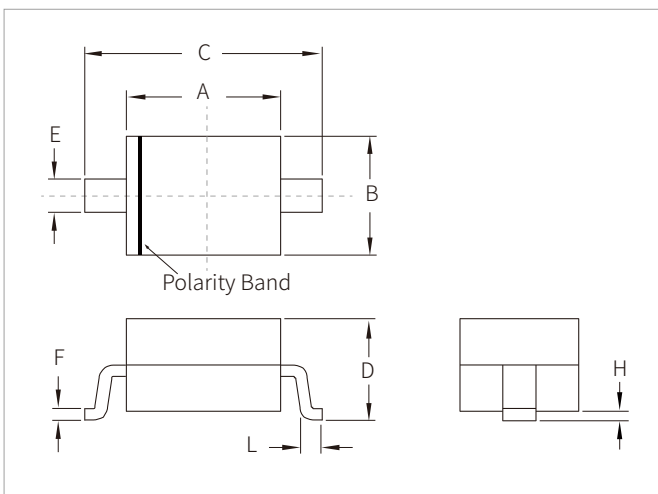


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

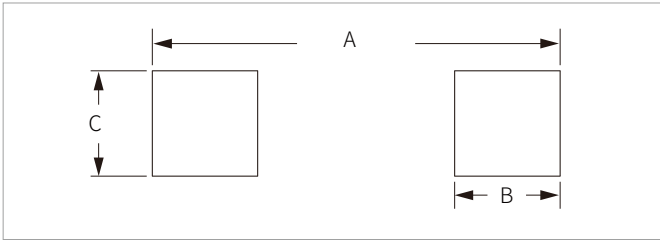


SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.70	0.093	0.106
D	0.80	1.10	0.031	0.042
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
B5819WSQ	SOD-323	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.