

FEATURES

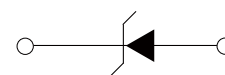
- | Fast Switching Diodes
- | Meet AEC-Q101 Requirements



SOD-323

APPLICATIONS

- | Small Signal Diode, Meet The Stringent Requirements Of Automotive Applications



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	BAV19WSQ	BAV20WSQ	BAV21WSQ	Unit
Marking		QA8	QT2	QT3	
Non-Repetitive Peak Reverse Voltage	V _{RM}	120	200	250	V
Peak Repetitive Reverse Voltage	V _{RRM}	100	150	200	V
Working Peak Reverse Voltage	V _R	100	150	200	V
RMS Reverse Voltage	V _{R(RMS)}	71	106	141	V
Non-Repetitive Peak Forward Current	I _{FM}		400		mA
Output Current	I _O		200		mA
Non-Repetitive Peak Forward Surge Current	t=1.0μs		2.5		A
	t=1.0s		0.5		A
Power Dissipation	P _d		200		mW
Typical Thermal Resistance Junction to Ambient	R _{θJA}		500		°C/W
Junction and Storage Temperature Range	T _J , T _{STG}		-65 to 150		°C

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

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Forward Voltage	$I_R = 100\mu\text{A}$	$V_{(BR)}$	120		V
			200		V
			250		V
Peak Forward Voltage	$I_F = 100\text{mA}$	V_{FM}		1.0	V
	$I_F = 200\text{mA}$			1.25	V
Instantaneous Reverse Current	$V_R = V_{RWM}, T_j = 25^{\circ}\text{C}$	I_{RM}		100	nA
	$V_R = V_{RWM}, T_j = 100^{\circ}\text{C}$			15	μA
Reverse recovery time	$I_F = I_R = 30\text{mA}, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	t_{rr}		50	ns
Total capacitance	$V_R = 0\text{V}, f = 1.0\text{MHz}$	C_T		5.0	pF

CHARACTERISTIC CURVES

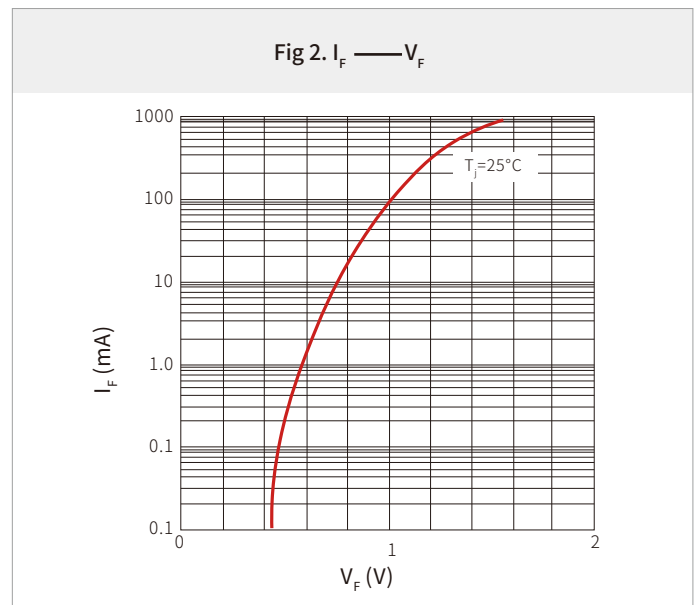
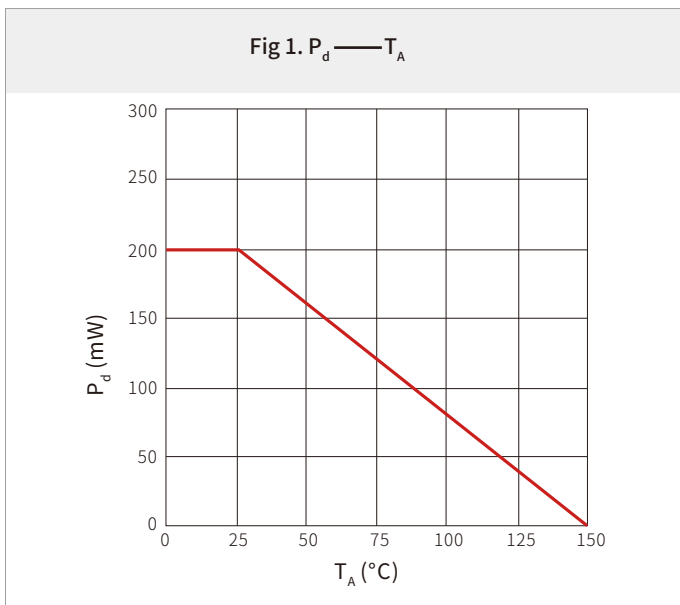
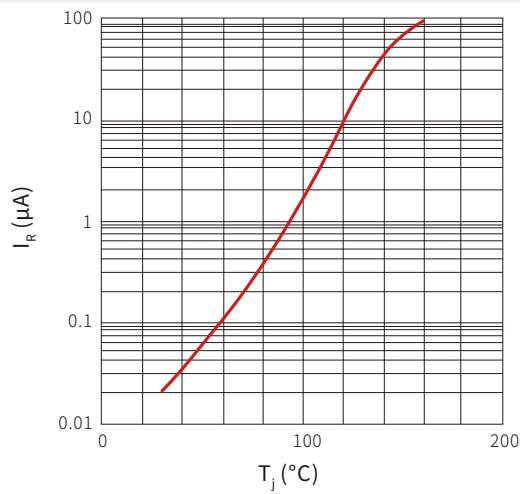
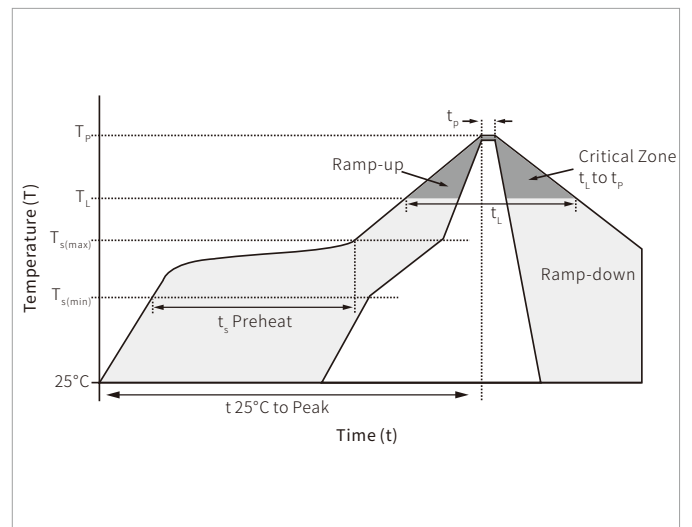


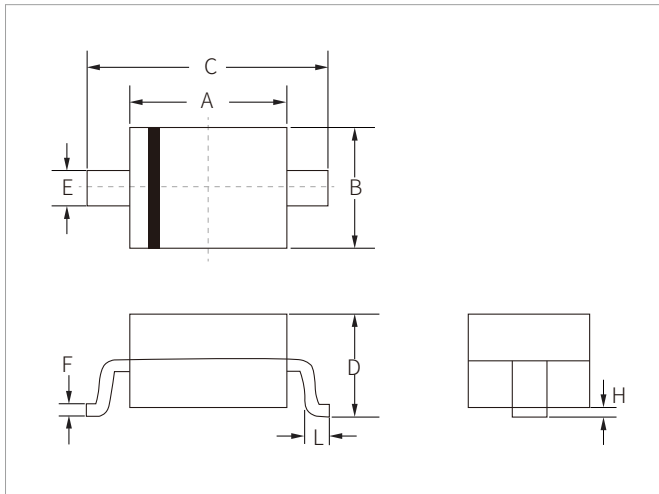
Fig 3. I_R — T_j


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

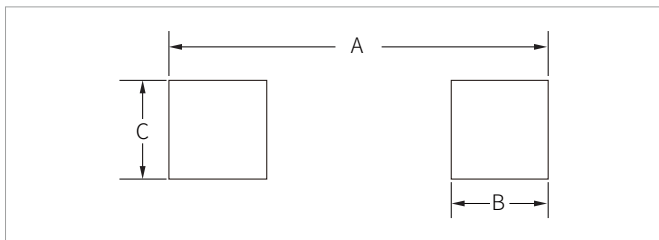


SOD-323 PACKAGE INFORMATION



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	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
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	0.40	0.008	0.016

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
BAV19WSQ-BAV21WSQ	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.