



BAT46WS

Schottky Barrier Rectifiers

Features

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection

Marking:S9

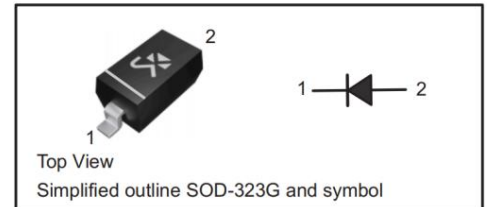
Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20%

Parameter	Symbol	Value	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}	100	V
Continuous Forward Current	I_F	150	mA
Repetitive Peak Forward Current ⁽¹⁾ @tp<1.0s, Duty Cycle<50%	I_{FRM}	350	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	at 8.3ms 25	A
		at 1.0ms 50	
I_{2t} Rating for fusing(3ms≤t≤8.3ms)	I_{2t}	2.6	A ² S
Power Dissipation	P_D	200	mW
Thermal Resistance,Junction to Ambient ⁽²⁾	$R_{\theta JA}$	150	°C/W
Thermal Resistance,Junction to Case ⁽²⁾	$R_{\theta JC}$	50	°C/W
Thermal Resistance,Junction to Lead ⁽²⁾	$R_{\theta JL}$	75	°C/W
Operating Junction Temperature Range	T_J	-55~+125	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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

Parameter	Symbol	Value	Units
Reverse Breakdown Voltage@ $I_R = 100\mu\text{A}$ ⁽³⁾	$V_{(BR)R}$	100	V
Maximum Forward Voltage	V_F	at 10mA 0.45	V
		at 250mA 1.0	
Peak Reverse Current	I_R	at $V_R=1.5\text{V}$ 0.3	μA
		at $V_R=10\text{V}$ 0.5	
		at $V_R=50\text{V}$ 1	
		at $V_R=75\text{V}$ 2	
Diodes Capacitance@ $V_R=4\text{V}$, $f=1\text{MHz}$	C_J	20	pF

Note:(1).Part mounted on FR-4 board with recommended pad layout.

(2).P.C.B. mounted with 0.1"x0.1"(2.54x2.54mm)copper pad areas

(3)Short duration pulse test used to minimize self-heating effect



Typical Characteristic

Fig.1 Forward Current Derating Curve

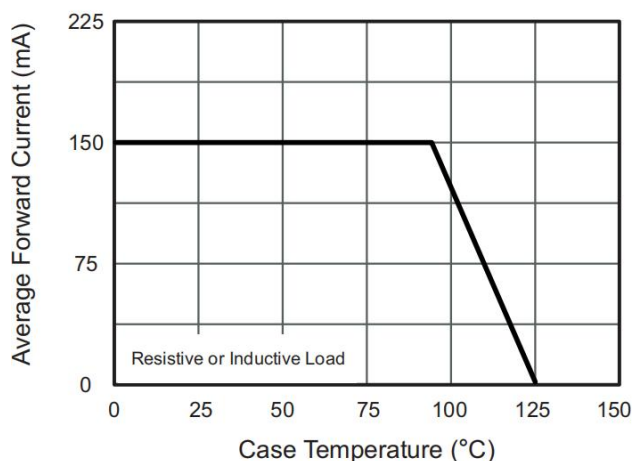


Fig.2 Typical Reverse Characteristics

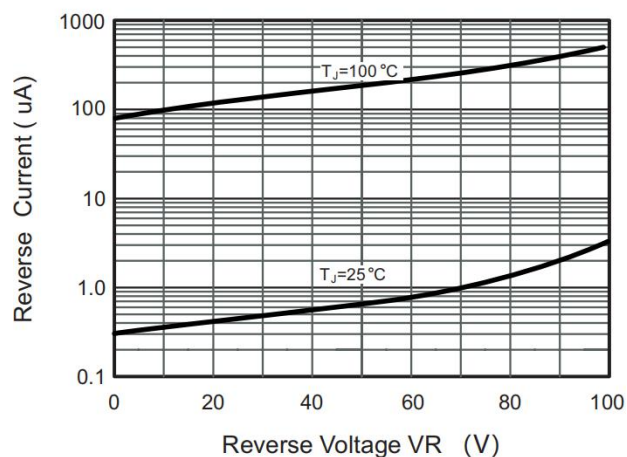


Fig.3 Typical Forward Characteristic

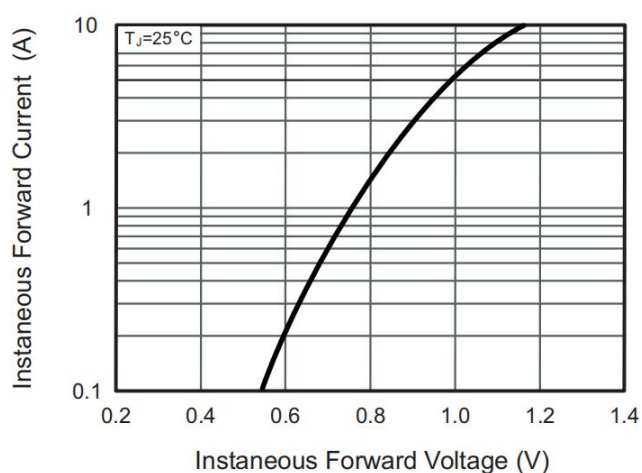


Fig.4 Typical Junction Capacitance

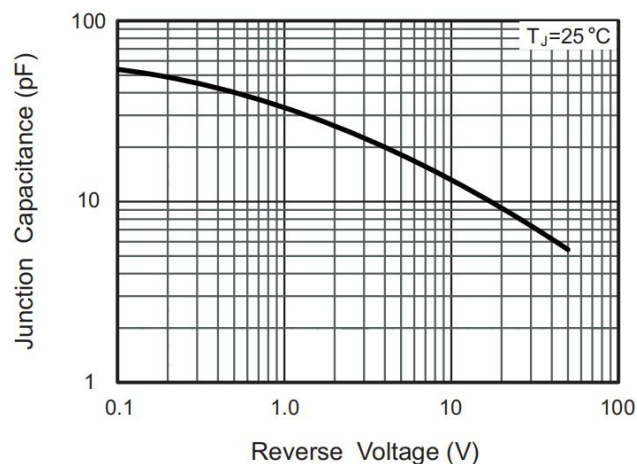


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

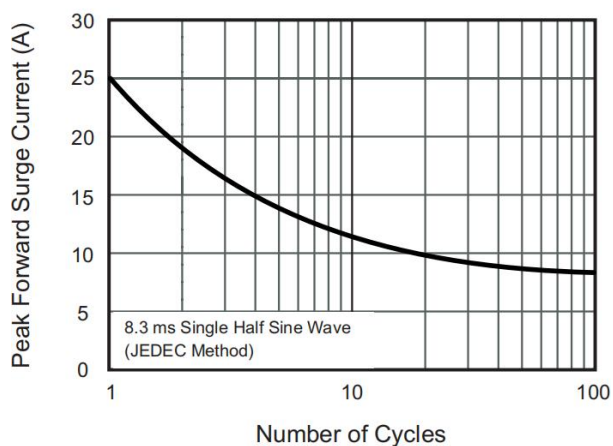
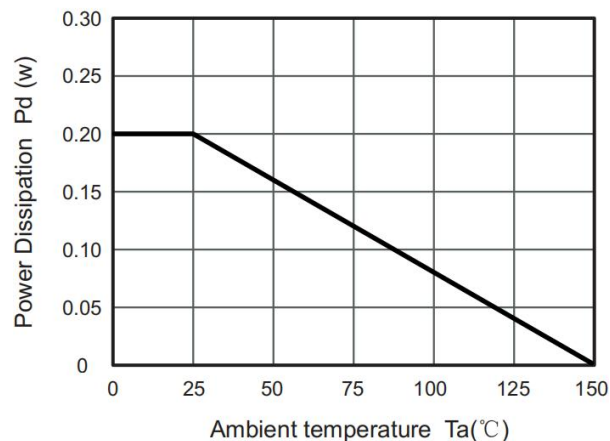


Fig.6 Power Derating Curve

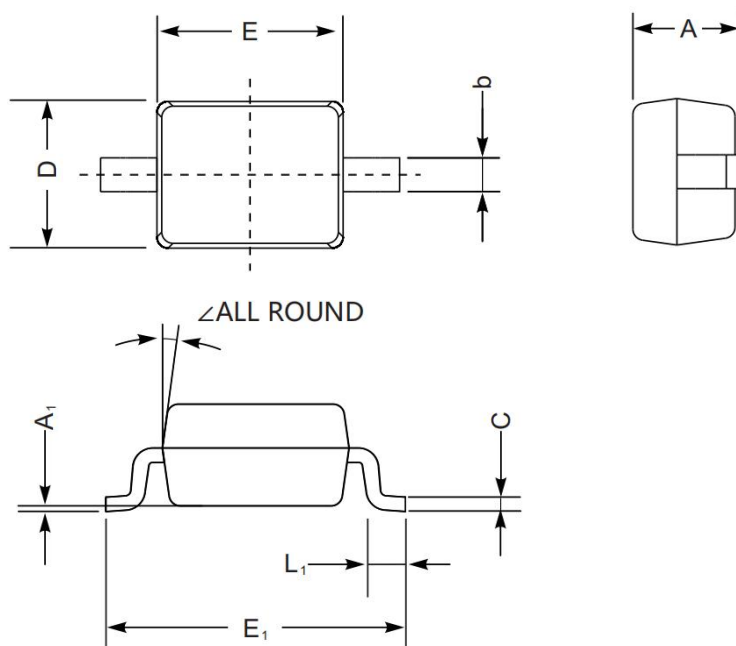




Package Information

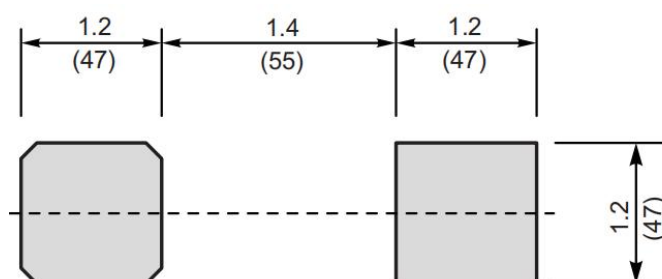
SOD-323G

Dimensions in mm



Unit		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	-	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	-	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$



Shikues Disclaimer

1.Accuracy of Information and Right to Modify

The information provided in this document is for reference only. Shikues reserves the right to make changes to this document and to the specifications of the products described herein at any time, without prior notice, for the purpose of improving reliability, function, design, or for any other reason. It is the customer's responsibility to obtain and verify the latest product information and specifications before making any final design, procurement, or usage decisions.

2.No Warranty

Shikues makes no express or implied warranties, representations, or guarantees regarding the suitability of its products for any particular purpose.

Shikues assumes no liability for any assistance provided or for the design of customer products. All products are supplied "as is."

3.Intended Use and Limitation of Liability

The products described in this document are intended for use in general-purpose electronic devices. They are neither designed nor tested nor authorized for use in transportation equipment or applications requiring high reliability. Unless expressly authorized in writing by Shikues, these products must not be used as critical components in life-support systems or any applications where failure could directly pose a risk to human life (including, but not limited to, medical devices, transportation systems, aerospace equipment, nuclear facilities, and safety-critical systems).

Shikues assumes no responsibility or liability for any consequences arising from the use of its products in unauthorized or unintended applications.

Neither Shikues nor its representatives shall be held liable for any resulting damages.

4.Intellectual Property

This document does not grant any express or implied license—whether by estoppel, implication, or otherwise—to use any intellectual property rights of Shikues.