

BAV19WS, BAV20WS, BAV21WS-AH

Silicon Epitaxial Planar Diodes

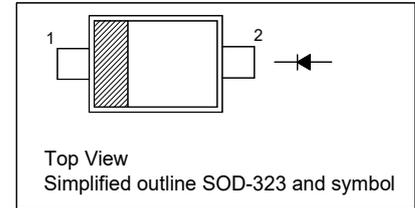
High Voltage Switching Diode

Features

- AEC-Q101 Qualified
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Halogen and Antimony Free(HAF),
RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



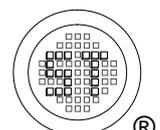
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	120	V
		200	
		250	
Reverse Voltage	V_R	100	V
		150	
		200	
Average Rectified Forward Current	$I_{F(AV)}$	250	mA
Forward Continuous Current	I_{FM}	400	mA
Repetitive Peak Forward Current	I_{FRM}	1	A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	at $t = 100 \mu\text{s}$	3
		at $t = 1 \text{ ms}$	2.3
		at $t = 10 \text{ ms}$	1.7
		at $t = 1 \text{ s}$	0.5
Power Dissipation ¹⁾	P_D	200	mW
Operating Junction Temperature Range	T_j	- 65 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	625	$^\circ\text{C/W}$

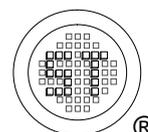
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	BAV19WS BAV20WS BAV21WS $V_{(BR)R}$	120 200 250	- - -	V
Reverse Current at $V_R = 100 \text{V}$ at $V_R = 150 \text{V}$ at $V_R = 200 \text{V}$	BAV19WS BAV20WS BAV21WS I_R	- - -	100 100 100	nA
Forward Voltage at $I_F = 100 \text{mA}$ at $I_F = 200 \text{mA}$	V_F	- -	1 1.25	V
Total Capacitance at $V_R = 0, f = 1 \text{MHz}$	C_T	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30 \text{mA}, I_{RR} = 0.1 \times I_R, R_L = 100 \Omega$	t_{rr}	-	50	ns



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Electrical Characteristic Curve

Fig 1. Power Derating Curve

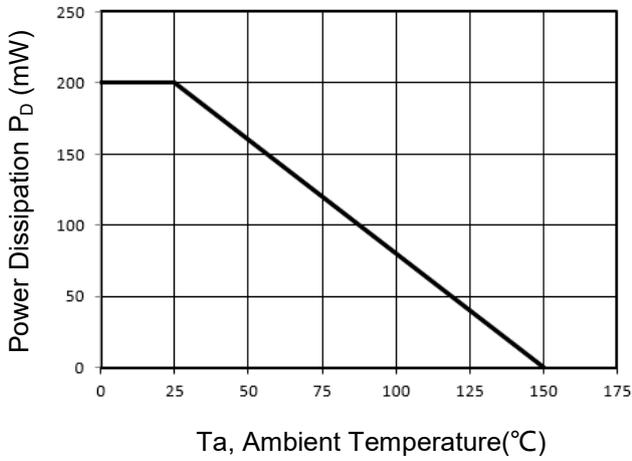


Fig 2. Forward Characteristic Curve

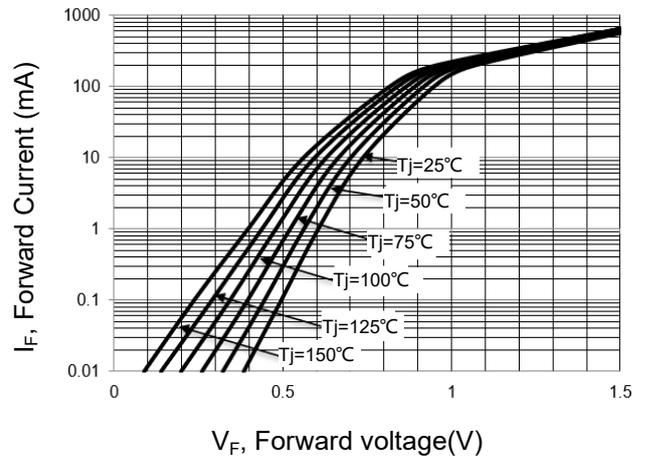


Fig 3. Reverse Characteristic Curve

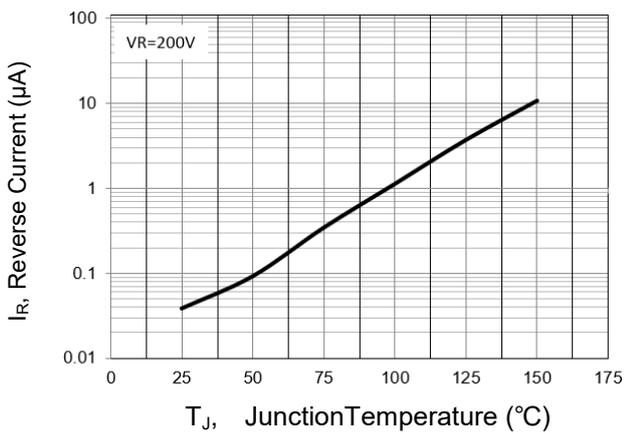
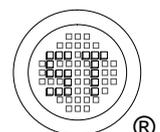
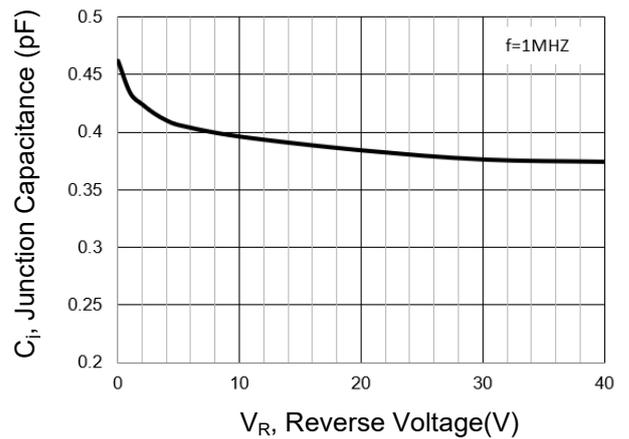


Fig 4. Junction Capacitance

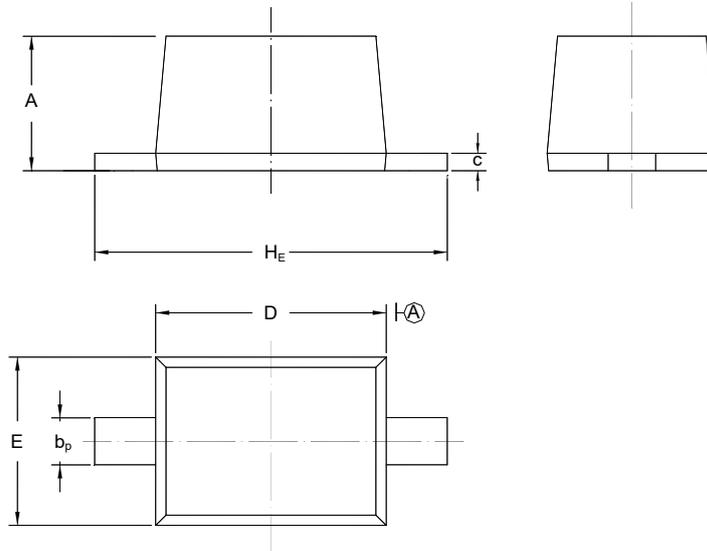


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PACKAGE OUTLINE

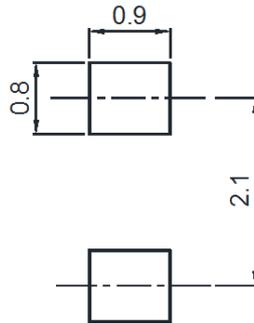
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b _p	C	D	E	H _E
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" WO " = Part No.

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

Font type: Arial



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