

BAV19WS, BAV20WS, BAV21WS-AH

Silicon Epitaxial Planar Diodes

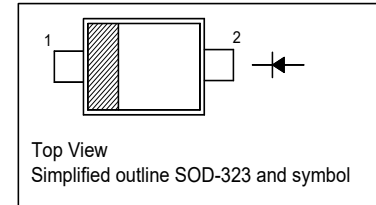
High Voltage Switching Diode

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



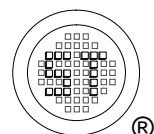
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

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 $t = 100\text{ }\mu\text{s}$	3	A
		at $t = 1\text{ ms}$	2.3	
		at $t = 10\text{ ms}$	1.7	
		at $t = 1\text{ s}$	0.5	
Power Dissipation	P_{tot}	200	mW	
Operating and Storage Temperature Range	T_j, 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	$^\circ\text{C/W}$

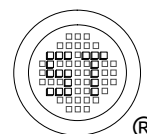
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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

Parameter		Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$	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 $I_F = I_R = 30\text{ mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100\text{ }\Omega$		t_{rr}	-	50	ns



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Electrical Characteristic Curve

Fig 1. Power Derating Curve

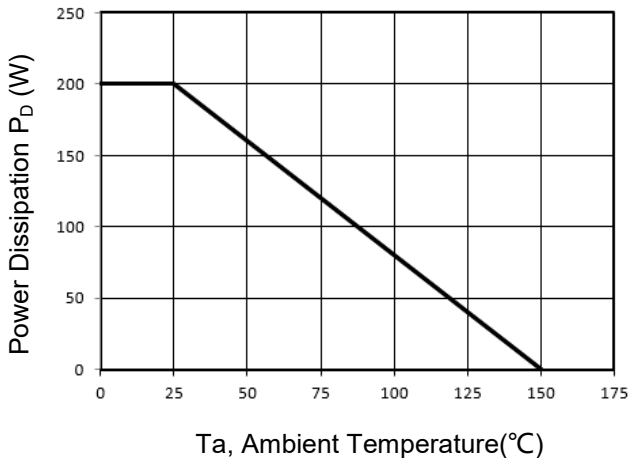


Fig 2. Forward Characteristic Curve

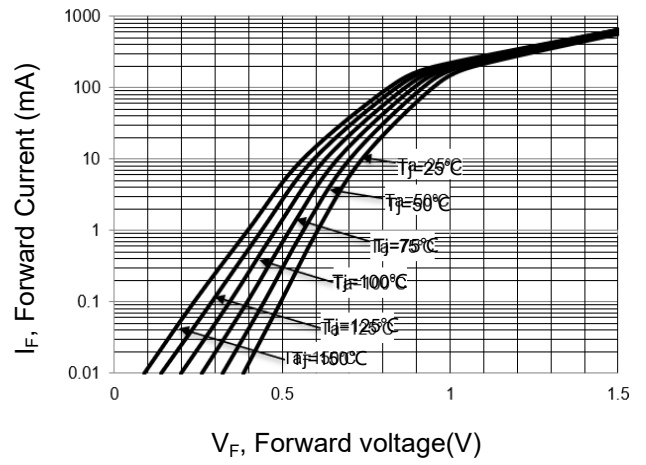


Fig 3. Reverse Characteristic Curve

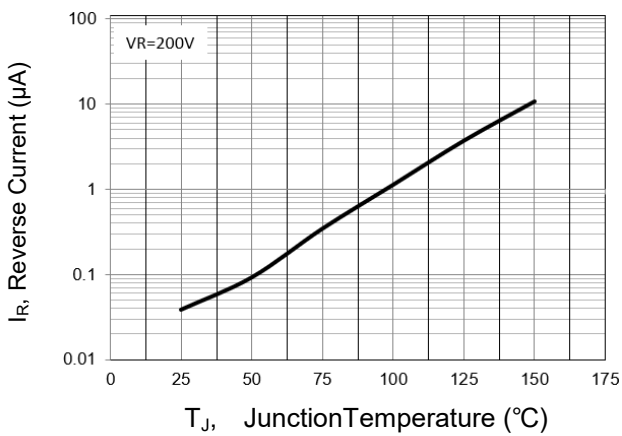
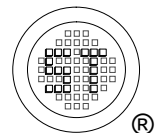
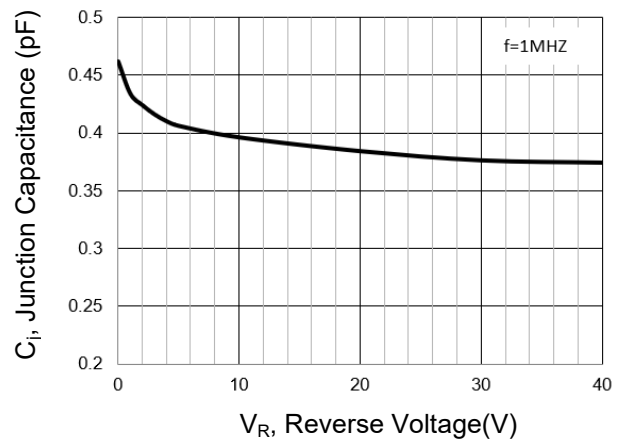


Fig 4. Junction Capacitance

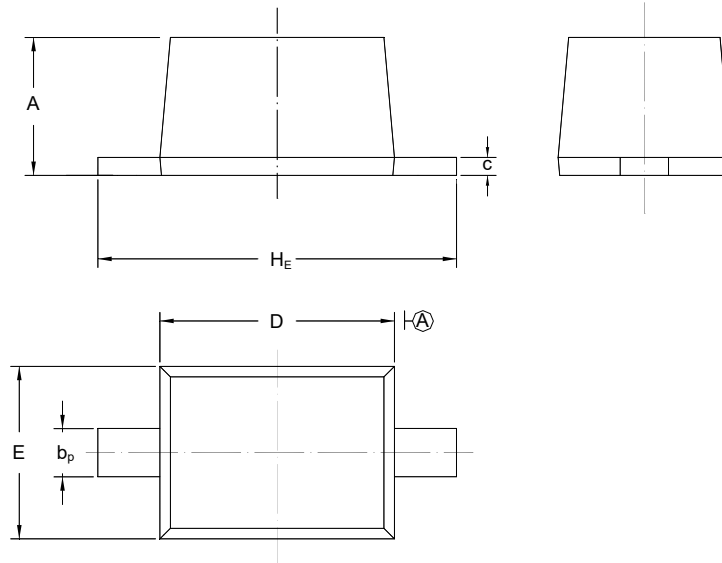


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PACKAGE OUTLINE

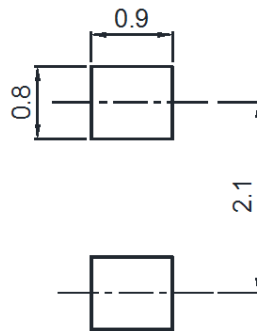
Plastic surface mounted package; 2 leads

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

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

" WO " = Part No.

Font type: Arial

