

# BAV19WS, BAV20WS, BAV21WS

## Silicon Epitaxial Planar Diodes

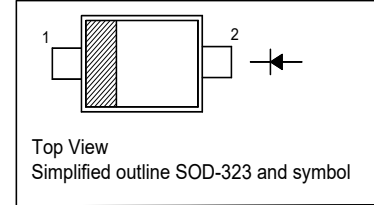
High Voltage Switching Diode

### Features

- Fast switching speed
- Surface mount package ideally suited for automatic insertion

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



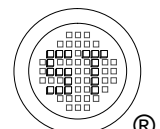
### Absolute Maximum Ratings ( $T_a = 25\text{ °C}$ )

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	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	°C	

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	625	°C/W

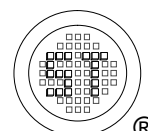
<sup>1)</sup> Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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## Characteristics at $T_a = 25\text{ °C}$

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

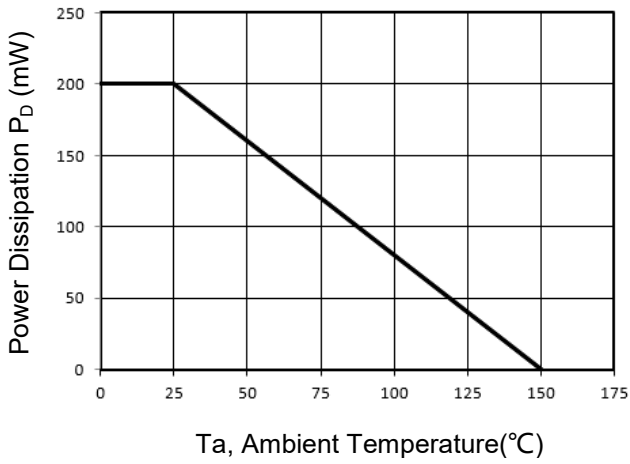


Fig 2. Forward Characteristic Curve

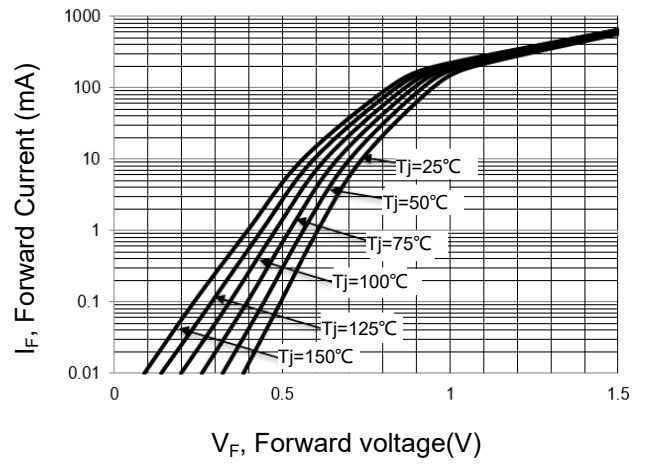


Fig 3. Reverse Characteristic Curve

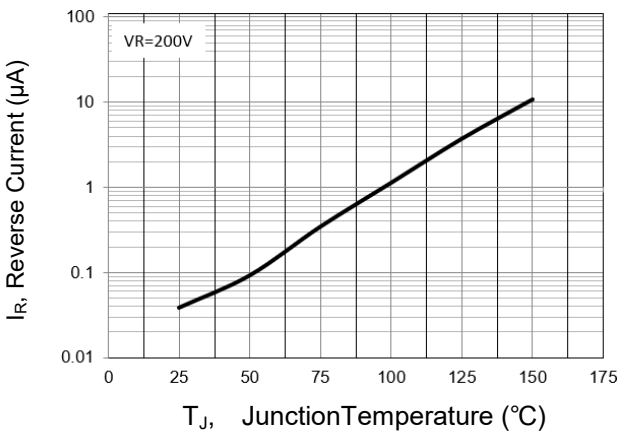
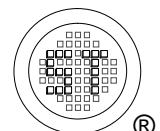
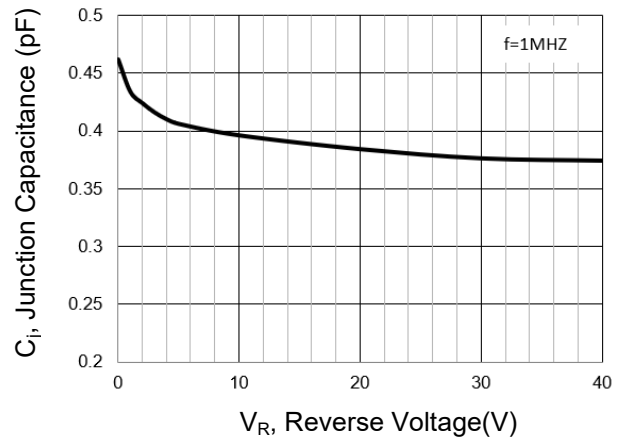


Fig 4. Junction Capacitance

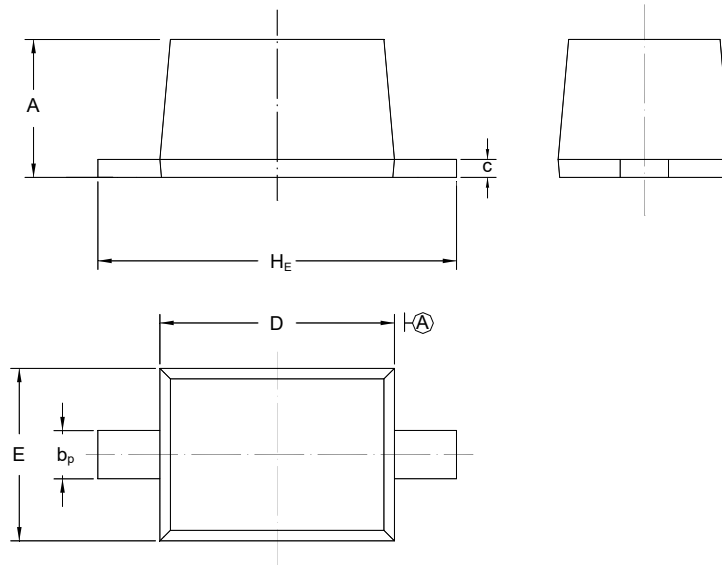


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## PACKAGE OUTLINE

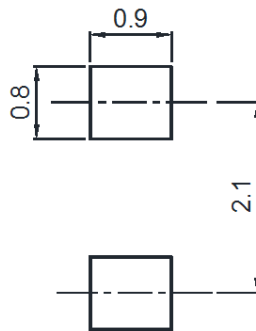
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b <sub>p</sub>	C	D	E	H <sub>E</sub>
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

" WO " = Part No.

Font type: Arial

