Product Summary

Parameter	Rating		
	BAV19WS	BAV20WS	BAV21WS
V_{RRM}	120 V	200 V	250 V
V_F Max @ 200mA	1.25 V	1.25 V	1.25 V
$I_{F(AV)}$	0.2A	0.2A	0.2A
I_R Max	100 nA	100 nA	100 nA

RoHS Compliant | Lead Free | Halogen Free

SOD-323

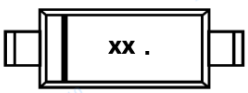
Features

- Silicon Epitaxial Planar Diodes
- For General Purpose

Mechanical Data

- Package: SOD-323
- Moisture Sensitivity: Level 1, per J-STD-020
- Halogen Free. “Green” Device (Note1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish & RoHS Compliant
- Weight: 0.004 g (approximate)

Body Marking and Pin Layout

Body Marking	Internal structure
 **XX**: Device Marking Code[1] **Bar**: Cathode Pin indicator **Dot**(optional): Manufacturing Site Marking [1] | Refer to the ordering information for the specific device code.	

Ordering Information

Ordering Product Name	Device Marking Code	Reel Size	Packing Type	Qty/Reel
BAV19WS-TP	A8	7”	Tape & Reel	3,000
BAV19WS-13P	A8	13”	Tape & Reel	10,000
BAV20WS-TP	T2	7”	Tape & Reel	3,000
BAV20WS-13P	T2	13”	Tape & Reel	10,000
BAV21WS -TP	T3	7”	Tape & Reel	3,000
BAV21WS -13P	T3	13”	Tape & Reel	10,000

For packaging details, visit our website at https://www.mccsemi.com/Package/List

Maximum Ratings (T_A=25℃ unless otherwise specified)

Parameter		Symbol	Rating			Unit
			BAV19WS	BAV20WS	BAV21WS	
Peak Repetitive Reverse Voltage		V_{RRM}	120	200	250	V
RMS Reverse Voltage		$V_{R(RMS)}$	85	141	177	V
Reverse Voltage		V_R	120	200	250	V
Average Forward Current		$I_{F(AV)}$	0.2	0.2	0.2	A
Non-Repetitive Peak Surge Current	t_p= 1μs Sine Wave, T_J = 25℃	I_{FSM}	9	9	9	A
	t_p= 100μs Sine Wave, T_J = 25℃		3	3	3	A
	t_p= 10ms Sine Wave, T_J = 25℃		1.7	1.7	1.7	A
	t_p= 1s Sine Wave, T_J = 25℃		0.5	0.5	0.5	A
Power Dissipation (Note 2)		P_D	250	250	250	mW
Operating Junction Temperature Range		T_J	-65 to +150	-65 to +150	-65 to +150	℃
Storage Temperature Range		T_{STG}	-65 to +150	-65 to +150	-65 to +150	℃

Thermal characteristics (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Thermal Resistance from Junction to Ambient (Note 2)	$R_{\theta JA}$	500	℃/W

Electrical Characteristics (T_A=25℃ unless otherwise specified)

Parameter	Product name	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage	BAV19WS	I_R=10μA (pulse test)	V_{BR}	120			V
	BAV20WS			200			V
	BAV21WS			250			V
Forward Voltage	BAV19WS BAV20WS BAV21WS	I_F = 100mA	V_F			1	V
		I_F = 200mA				1.25	
Reverse Current	BAV19WS BAV20WS BAV21WS	V_R = 100 V	I_R			0.1	μA
		V_R = 100 V,T_J=100˚C				15	
		V_R = 150 V				0.1	
		V_R = 150 V,T_J=100˚C				15	
		V_R = 200 V				0.1	
		V_R = 200 V,T_J=100˚C				15	
Junction Capacitance	BAV19WS BAV20WS BAV21WS	V_R=0 V, f=1.0MHz	C_J		1.5		pF
Reverse Recovery Time		I_F=30mA, I_R=30mA, I_{rr}=0.1 x I_R, R_L=100Ω	t_{rr}			50	ns

BAV19WS THUR BAV21WS

Curve Characteristics

Fig.1 - Typical Instantaneous Forward Characteristics (per diode)

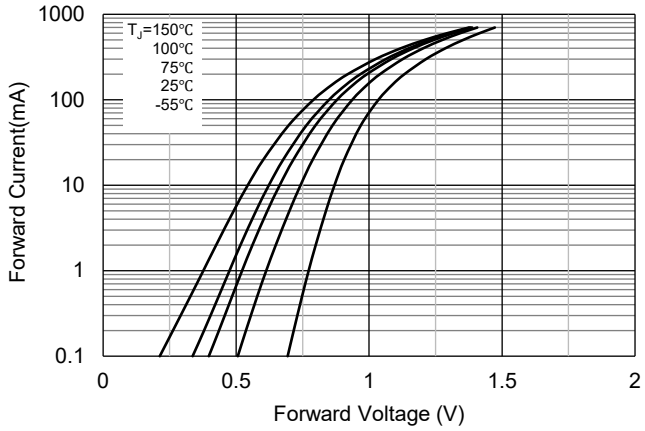


Fig.2 - Typical Reverse Leakage Characteristics (per diode)

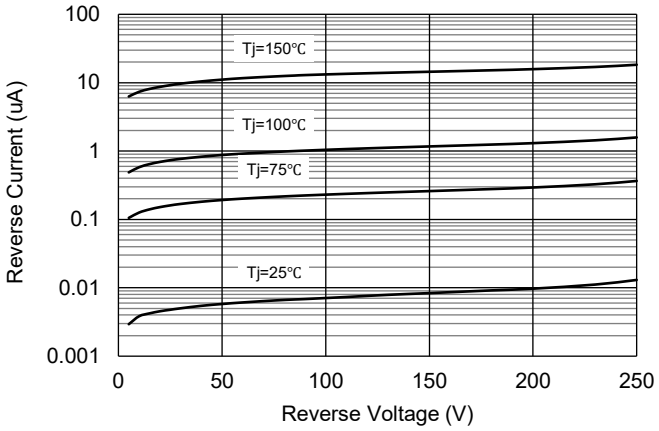


Fig.3 - Typical Capacitance Characteristics (per diode)

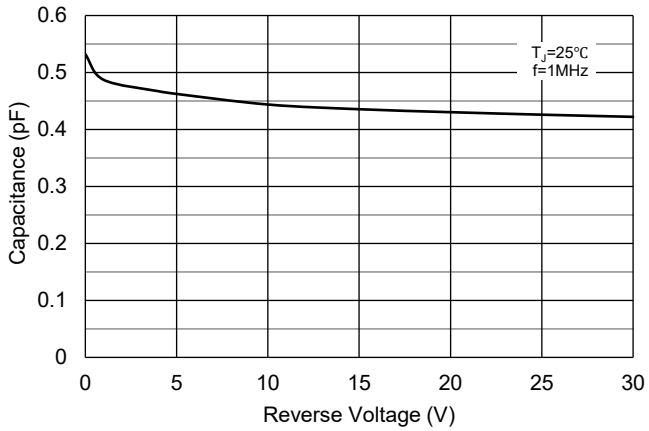
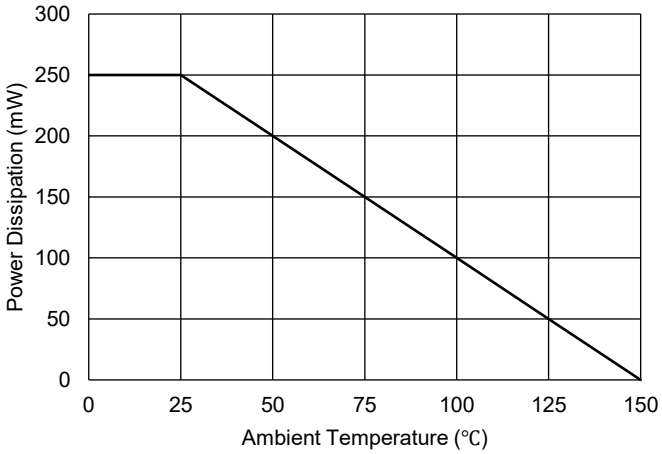
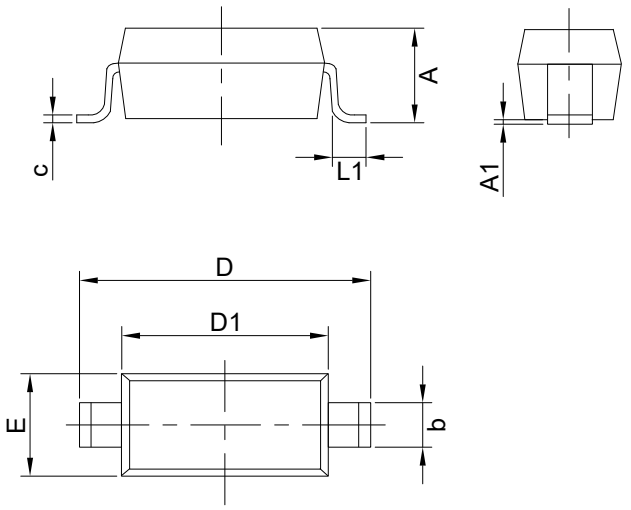


Fig.4 - Power Derating Curve



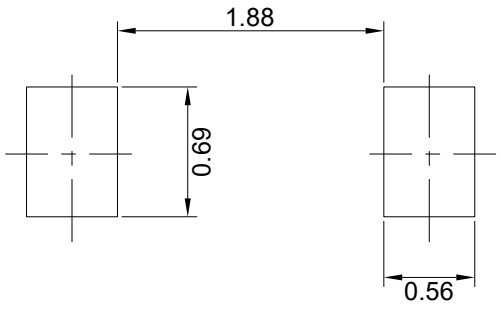
Package Outline



DIM	INCH		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.031	0.045	0.80	1.15*	Note 1
A1	0.000	0.006	0.00	0.15	
b	0.010	0.016	0.25	0.40	
c	0.003	0.010	0.08	0.25	
D	0.090	0.107	2.30	2.70	
D1	0.063	0.071	1.60	1.80	
E	0.045	0.055	1.15	1.40	
L1	0.004	0.018	0.10	0.45	

Notes:
1. Dimension A for products from manufacturing site VN is controlled at max 1.10 mm.

Suggested Pad Layout (Unit:mm)



Notes:
1. The suggested land pattern dimensions have been provided for reference only.
2. For further information, please refer to document IPC-7351A.

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