

Features

- Silicon Epitaxial Planar Diodes
- For General Purpose
- This Diode is Also Available in Other Case
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 500°C/W Junction to Ambient

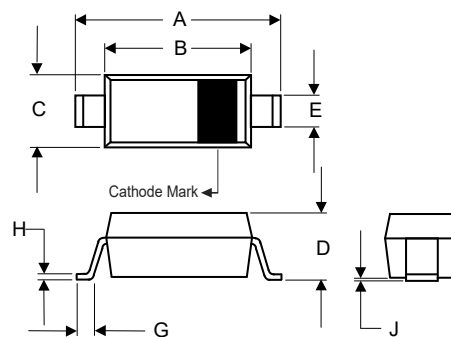
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Continuous Reverse Voltage
BAV19WS	A8	120V	71V	100V
BAV20WS	T2	200V	106V	150V
BAV21WS	T3	250V	141V	200V

Peak Forward Current	I_{FM}	400mA	Note2
Average Rectified Output Current	I_o	200mA	Note2
Peak Forward Surge Current	I_{FSM}	9.0A 3.0A 1.7A 0.5A	$t=1\mu s$ $t=100\mu s$ $t=10ms$ $t=1s$
Repetitive Peak Forward Current	I_{FRM}	625mA	$f>50Hz, T_a=25^\circ C^{(2)}$
Power Dissipation	P_{tot}	250mW	$T_a=25^\circ C^{(2)}$

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Valid Provided that Terminals are Kept at Ambient Temperature

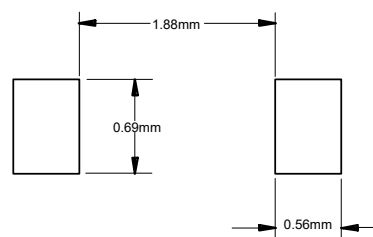
**250mW
Small Signal
Diodes
120 to 250 Volts**

SOD-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.090	0.107	2.30	2.70	
B	0.063	0.071	1.60	1.80	
C	0.045	0.053	1.15	1.35	
D	0.031	0.045	0.80	1.15	
E	0.010	0.016	0.25	0.40	
G	0.004	0.018	0.10	0.45	
H	0.004	0.010	0.10	0.25	
J	-----	0.006	-----	0.15	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F	$I_F=100\text{mA}$			1	V
		$I_F=200\text{mA}$			1.25	V
Dynamic Forward Resistance	r_f	$I_F=10\text{mA}$		5		Ω
Reverse Current	I_R	BAV19WS $V_R=100\text{V}$			100	nA
		BAV20WS $V_R=150\text{V}$			100	nA
		BAV21WS $V_R=200\text{V}$			100	nA
		BAV19WS $V_R=100\text{V}, T_J=100^\circ\text{C}$			15	μA
		BAV20WS $V_R=150\text{V}, T_J=100^\circ\text{C}$			15	μA
		BAV21WS $V_R=200\text{V}, T_J=100^\circ\text{C}$			15	μA
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		1.5		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=30\text{mA},$ $I_{rr}=0.1*I_R, R_L=100\Omega$			50	ns

 * Pulse Test: Pulse Width 300 μsec , Duty Cycle 2%

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

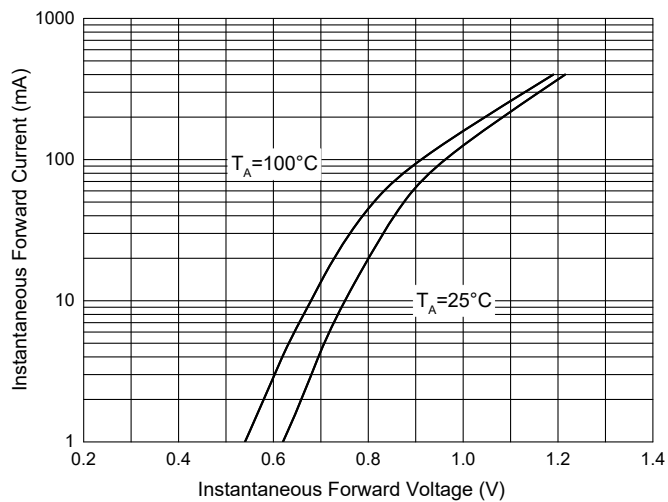


Fig. 2 - Typical Reverse Leakage Characteristics

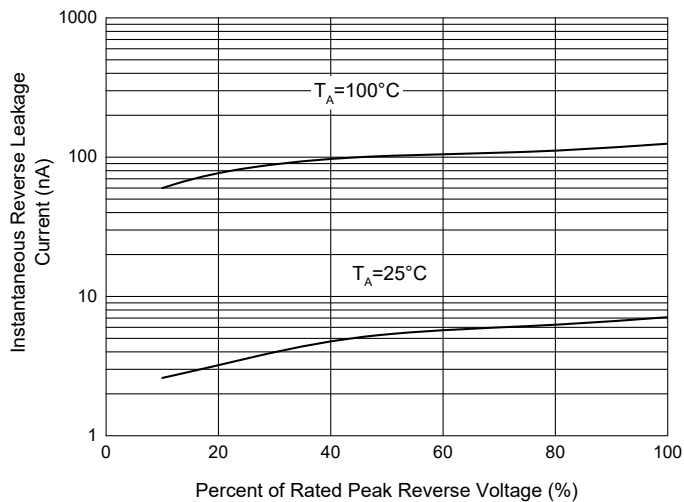


Fig. 3 - Power Derating Curve

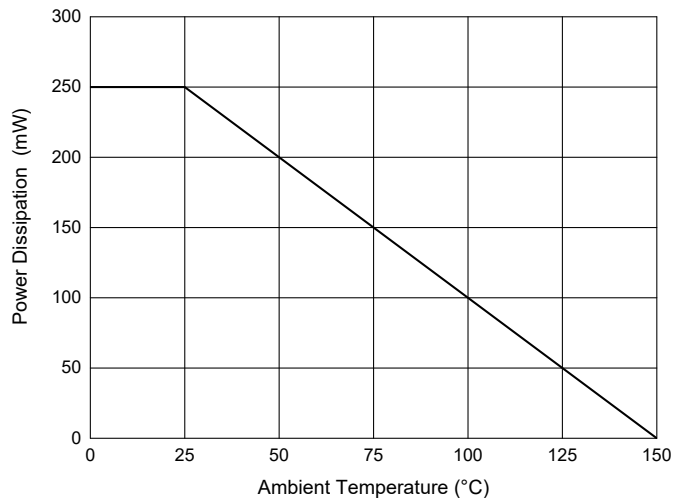


Fig. 4 - Current Derating Curve

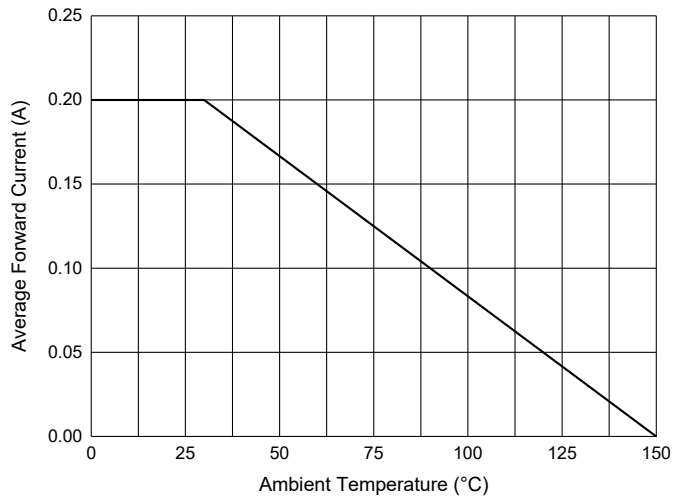
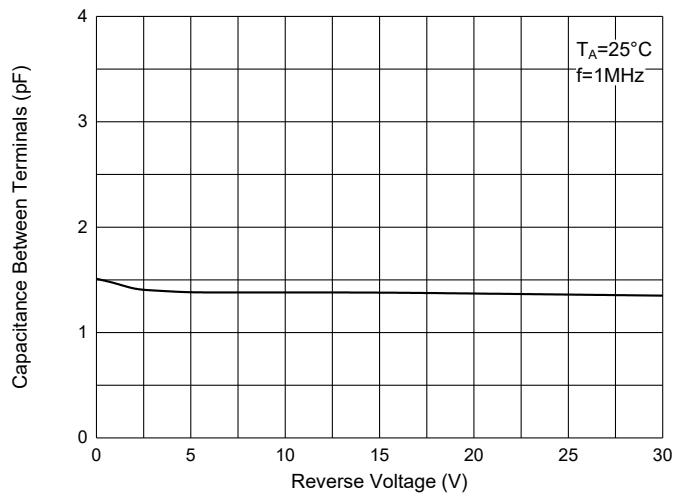


Fig. 5 - Capacitance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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