

**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

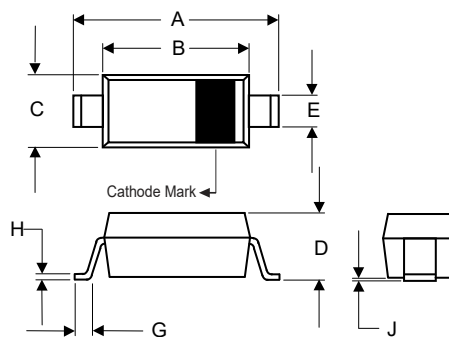
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Continuous Reverse Voltage
BAV19WS	A8	120V	71V	100V
BAV20WS	T2	200V	106V	150V
BAV21WS	T3	250V	141V	200V

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

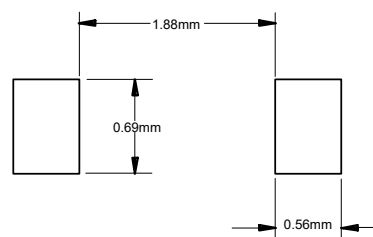
**250mW  
Small Signal  
Diodes  
120 to 250 Volts**

**SOD-323**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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		$\Omega$
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	$\mu\text{A}$
		BAV20WS $V_R=150\text{V}, T_J=100^\circ\text{C}$			15	$\mu\text{A}$
		BAV21WS $V_R=200\text{V}, T_J=100^\circ\text{C}$			15	$\mu\text{A}$
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  $\mu\text{sec}$ , Duty Cycle 2%

**Curve Characteristics**

Fig. 1 - Typical Instantaneous Forward Characteristics

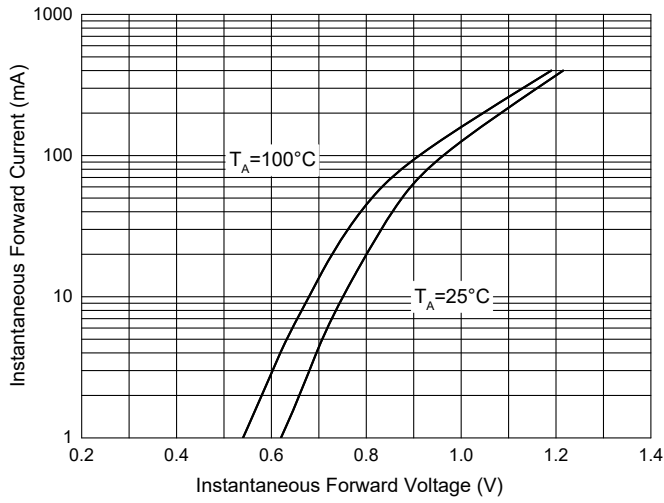


Fig. 2 - Typical Reverse Leakage Characteristics

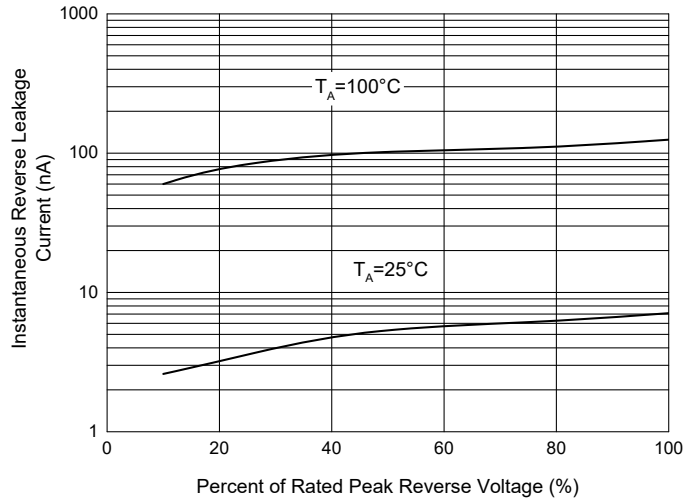


Fig. 3 - Power Derating Curve

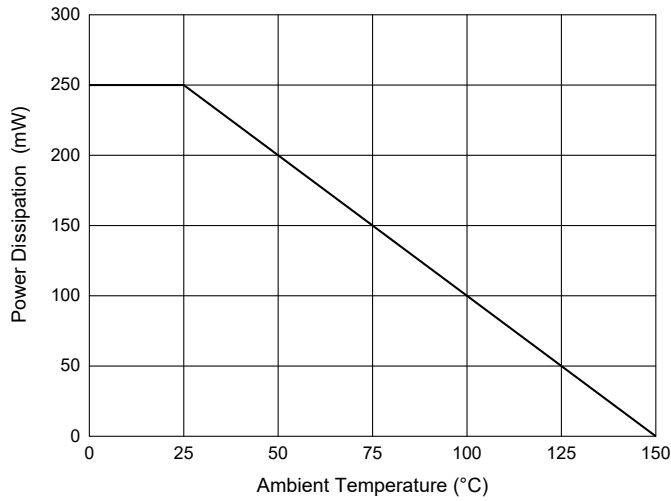


Fig. 4 - Current Derating Curve

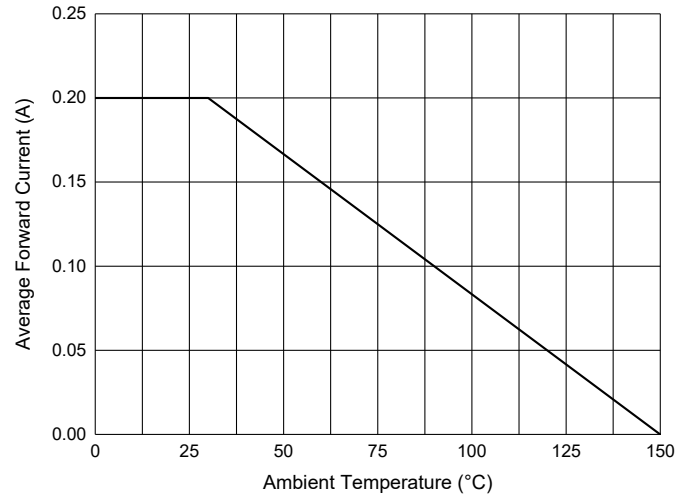
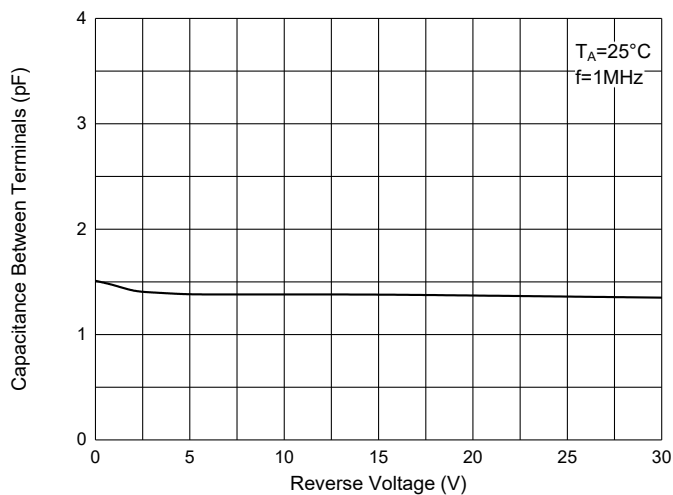


Fig. 5 - Capacitance Characteristics



## Ordering Information

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

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