

BAV19W thru BAV21W Switching Diodes

Features

- Small signal switching diode
- Fast switching, $t_{rr} < 50\text{nS}$
- Low reverse leakage
- RoHS compliant



Absolute Maximum Ratings

SOD-123

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter		Symbol	BAV19W	BAV20W	BAV21W	Unit
Repetitive Peak Reverse Voltage		V _{RRM}	120	200	250	V
Working Peak Reverse Voltage		V _{RWM}	100	150	200	V
DC Blocking Voltage		V _R				
RMS Reverse Voltage		V _{R(RMS)}	71	106	141	V
Forward Continuous Current		I _{FM}	400			mA
Average Rectified Output Current		I _O	200			mA
Non-Repetitive Peak Forward Surge Current	t=1.0ms	I _{FSM}	2.5			A
	t=1.0s		0.5			A
Power Dissipation		P _D	500			mW
Thermal Resistance Junction to Ambient Air		R _{θJA}	500			°C/W
Operating and Storage Temperature Range		T _J , T _{STG}	-65 to +150			°C

Electrical Characteristics

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition		Rating		Unit
				Min	Max	
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=100\mu A$	BAV19W	120	-	V
			BAV20W	200	-	
			BAV21W	250	-	
Forward Voltage	V_{FM}	$I_F=100mA$		-	1.0	V
		$I_F=200mA$		-	1.25	V
Reverse Leakage Current	I_{RM}	$T_J=25^{\circ}C, V_R=V_{RWM}$		-	100	nA
		$T_J=100^{\circ}C, V_R=V_{RWM}$		-	15	μA
Reverse Recovery Time	t_{rr}	$I_F=I_R=30mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$		-	50	ns
Total Capacitance	C_T	$V_R=0, f=1.0MHz$		-	5.0	pF

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Typical Electrical Characteristic Curves

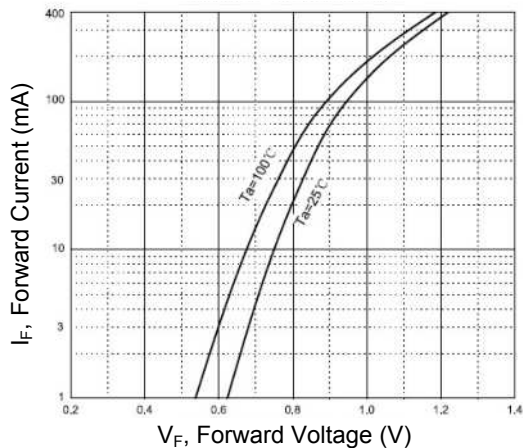


Figure 1. Forward Characteristics

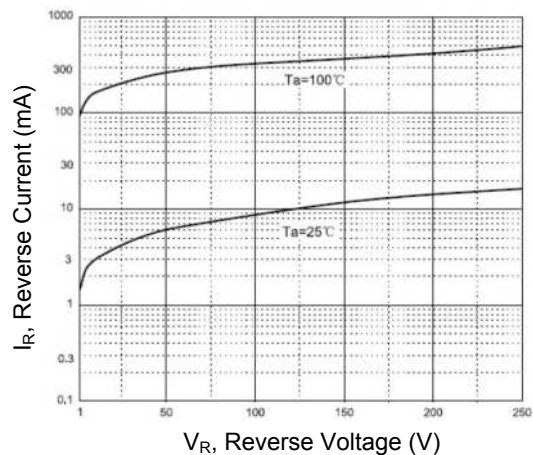


Figure 2. Reverse Characteristics

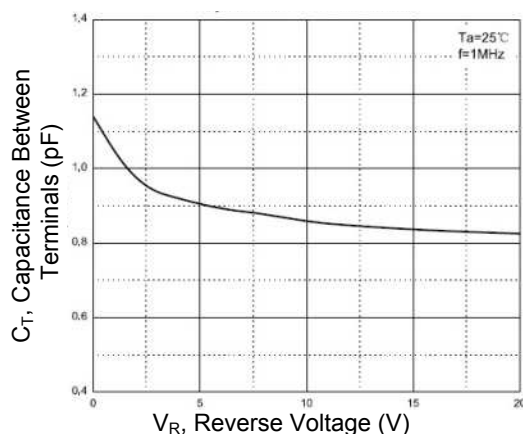


Figure 3. Capacitance Characteristics

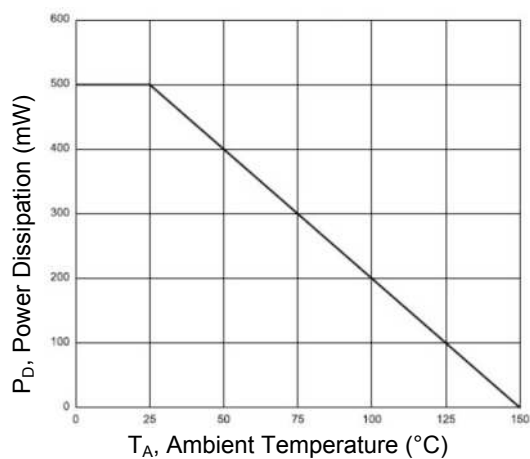
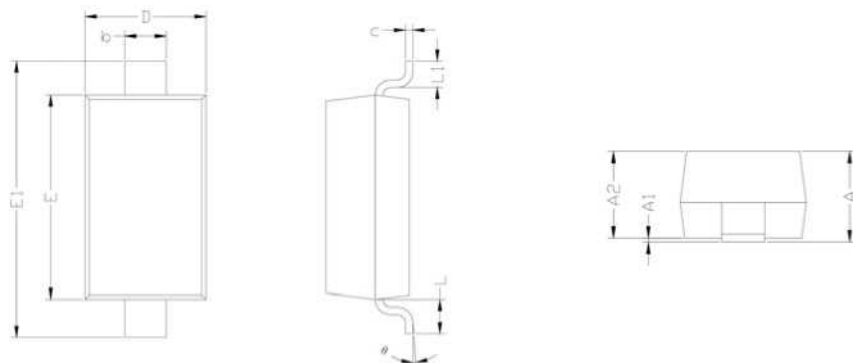


Figure 4. Power Derating Curve

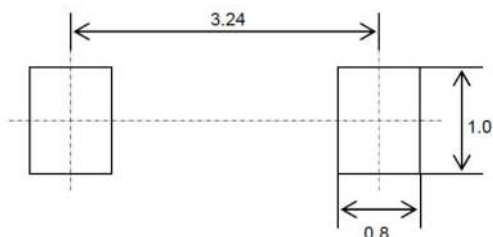
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Package Outline Dimensions (SOD-123)



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Order Information

Device	Package	Marking	Carrier	Quantity
BAV19W	SOD-123	A8	Tape & Reel	3,000 pcs / Reel
BAV20W	SOD-123	T2	Tape & Reel	3,000 pcs / Reel
BAV21W	SOD-123	T3	Tape & Reel	3,000 pcs / Reel