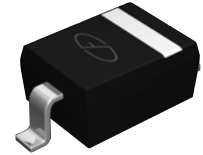


Features

- 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	$t=1.0\text{ms}$	I_{FSM}	2.5		A
	$t=1.0\text{s}$		0.5		A
Power Dissipation	P_D	500			mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	500			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150			$^\circ\text{C}$

Electrical Characteristics

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

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

Typical Electrical Characteristic Curves

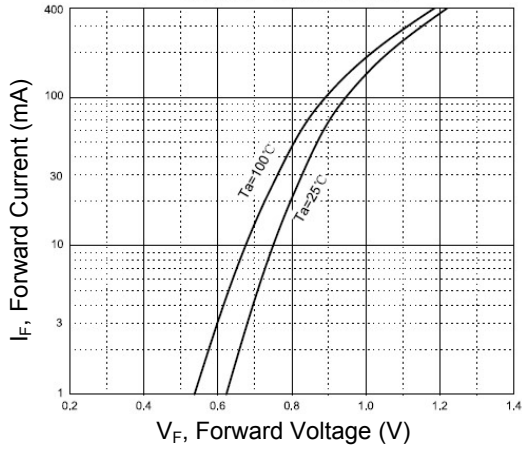


Figure 1. Forward Characteristics

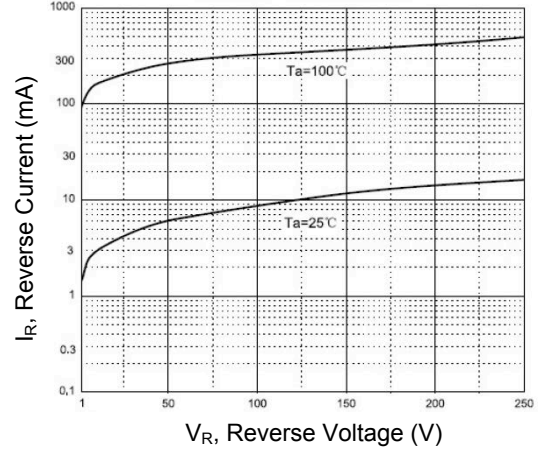


Figure 2. Reverse Characteristics

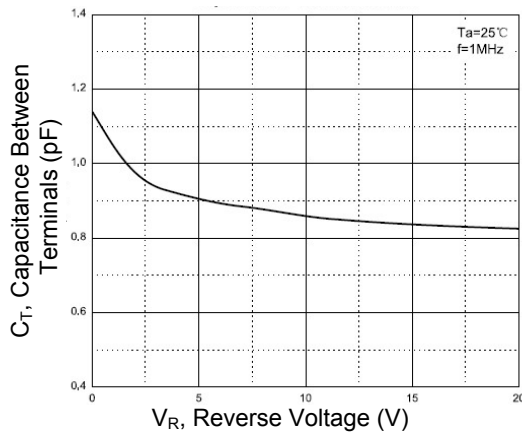


Figure 3. Capacitance Characteristics

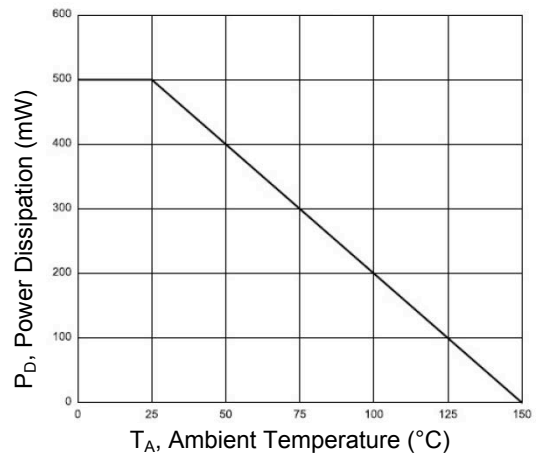
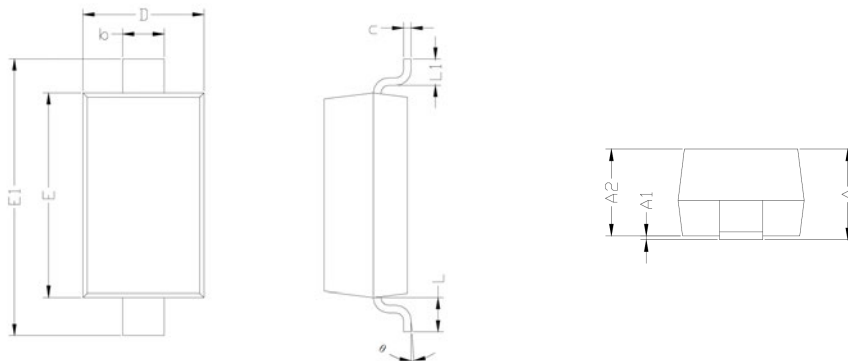


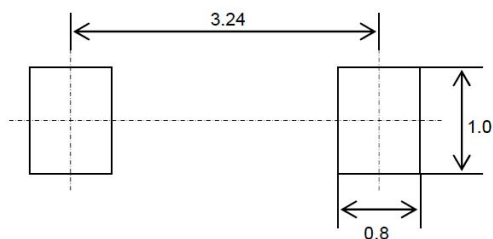
Figure 4. Power Derating Curve

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