

BAV19WS thru BAV21WS Switching Diodes

Features

- Fast switching device ($t_{rr} < 50\text{nS}$)
- Power dissipation of 250mW
- High stability and high reliability
- Low reverse leakage



SOD-323

Mechanical Data

- SOD-323 small outline plastic package
- Epoxy UL: 94V-0
- Polarity: cathode band denotes cathode
- Mounting position: Any

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

Parameter	Symbol	Value			Unit
		BAV19WS	BAV20WS	BAV21WS	
Reverse Voltage	V_R	120	200	250	V
Peak Reverse Voltage	V_{RM}	100	150	200	V
Power Dissipation	P_D	250			mW
Operating Junction Temperature	T_J	150			$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150			$^\circ\text{C}$
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	500			$^\circ\text{C/W}$
Working Inverse Voltage	W_{IV}	75			V
Average Rectified Current	I_O	200			mA
Non-Repetitive Peak Forward Current	I_{FM}	400			mA
Peak Forward Surge Current @ $T_P = 1\text{mS}$; $T_A = 25^\circ\text{C}$	I_{FSM}	1.7			A

Valid provided that electrodes are kept at ambient temperature.

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

Parameter		Symbol	Test Condition	Min	Max	Unit
Reverse Voltage	BAV19WS	V_R	$I_B = 100\mu\text{A}$	120	-	V
	BAV20WS			200		
	BAV21WS			250		
Reverse Leakage Current	BAV19WS	I_R	$V_R = 100\text{V}$	-	0.1	μA
	BAV20WS		$V_R = 150\text{V}$			
	BAV21WS		$V_R = 200\text{V}$			
Forward Voltage		V_F	$I_F = 100\text{mA}$	-	1	V
			$I_F = 200\text{mA}$	-	1.25	
Reverse Recovery Time		t_{rr}	$I_F = 30\text{mA}$, $I_R = 30\text{mA}$, $R_L = 100\Omega$, $I_{RR} = 3\text{mA}$	-	50	nS
Capacitance		C	$V_R = 0\text{V}$, $f = 1\text{MHz}$	-	5	pF

Typical Electrical Characteristic Curves

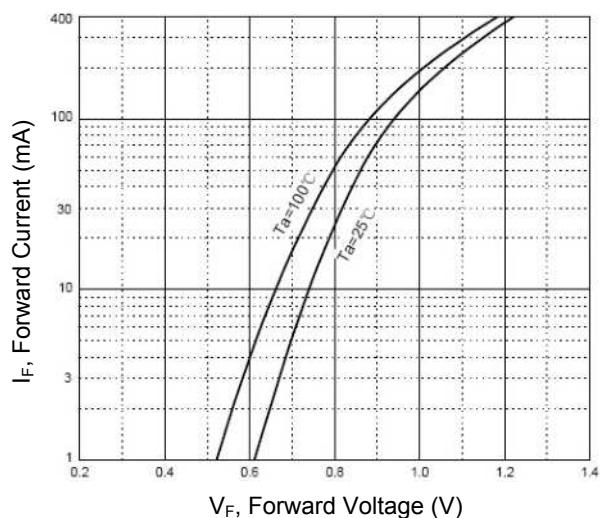


Figure 1. Forward Characteristics

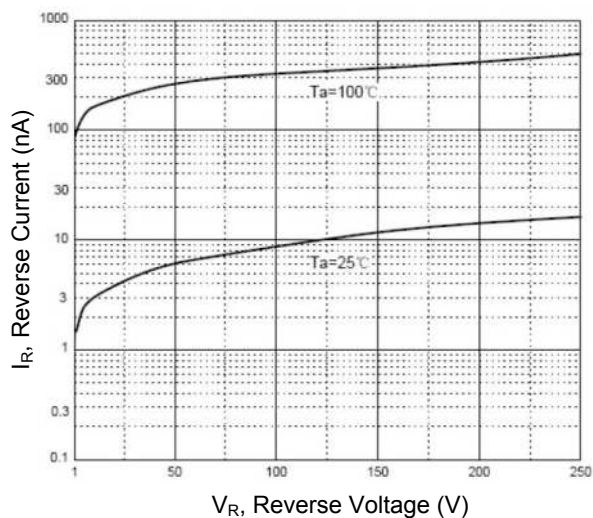


Figure 2. Reverse Characteristics

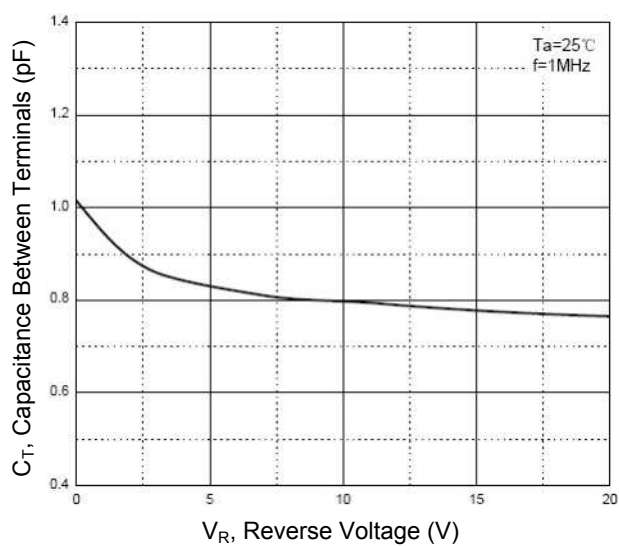


Figure 3. Capacitance Characteristics

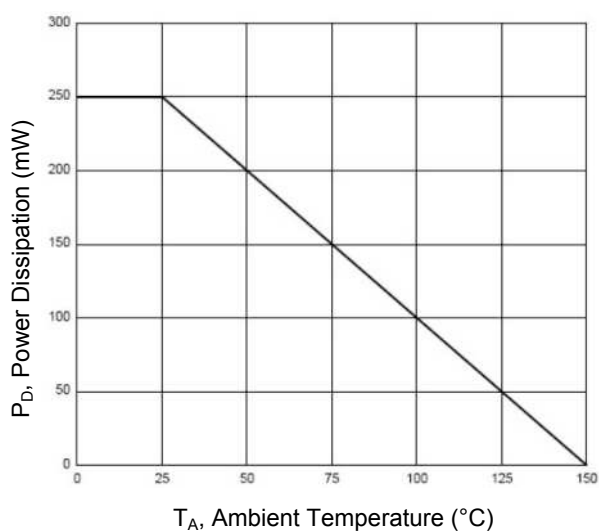
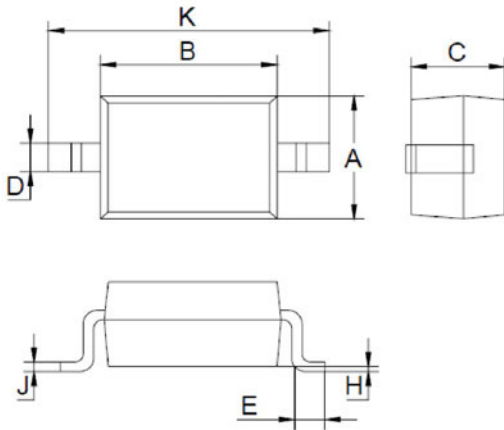


Figure 4. Power Derating Curve

Package Outline Dimensions (SOD-323)



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	1.200	1.400	0.047	0.055
B	1.600	1.800	0.063	0.071
C	0.800	0.900	0.031	0.035
D	0.250	0.350	0.010	0.014
E	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004
J	0.100 TYP		0.004 TYP	
K	2.500	2.700	0.098	0.106

Order Information

Device	Package	Marking	Carrier	Quantity
BAV19WS	SOD-323	A8	Tape & Reel	3,000 pcs / Reel
BAV20WS	SOD-323	T2	Tape & Reel	3,000 pcs / Reel
BAV21WS	SOD-323	T3	Tape & Reel	3,000 pcs / Reel