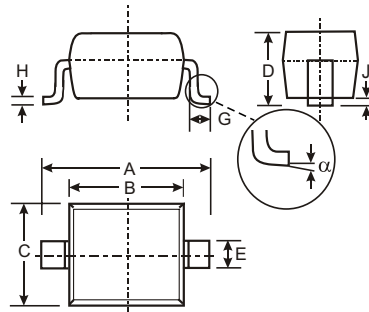


### Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- Also Available in Lead Free Version

### Mechanical Data

- Case: SOD-323, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 2
- Terminal Connections: Cathode Band, See Page 2
- BAV19WS Marking: A8 or T2 or T3
- BAV20WS Marking: T2 or T3
- BAV21WS Marking: T3
- Weight: 0.004 grams (approx.)



SOD-323		
Dim	Min	Max
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
$\alpha$	0°	8°
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	BAV19WS	BAV20WS	BAV21WS	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	120	200	250	V
Working Peak Reverse Voltage DC Blocking Voltage	$V_{RWM}$ $V_R$	100	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	71	106	141	V
Forward Continuous Current (Note 1)	$I_{FM}$	400			mA
Average Rectified Output Current (Note 1)	$I_O$	200			mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$	$I_{FSM}$	2.5 0.5			A
Repetitive Peak Forward Surge Current	$I_{FRM}$	625			mA
Power Dissipation	$P_d$	200			mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625			$^\circ\text{C/W}$
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 specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	BAV19WS BAV20WS BAV21WS $V_{(BR)R}$	120 200 250	—	V	$I_R = 100\mu\text{A}$
Forward Voltage (Note 2)	$V_{FM}$	—	1.0 1.25	V	$I_F = 100\text{mA}$ $I_F = 200\text{mA}$
Peak Reverse Current @ Rated DC Blocking Voltage (Note 2)	$I_{RM}$	—	100 15	NA $\mu\text{A}$	$T_j = 25^\circ\text{C}$ $T_j = 100^\circ\text{C}$
Total Capacitance	$C_t$	—	5.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	50	ns	$I_F = I_R = 30\text{mA}$ , $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

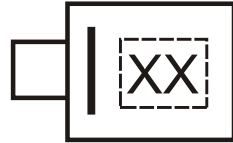
- Note:
1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test used to minimize self-heating effect.

**Ordering Information** (Note 3)

Device	Packaging	Shipping
BAV19WS-7	SOD-323	3000/Tape & Reel
BAV20WS-7	SOD-323	3000/Tape & Reel
BAV21WS-7	SOD-323	3000/Tape & Reel

- Notes: 3. For Packaging Details, go to our website at: <http://www.diodes.com/datasheets/ap02007.pdf>.  
 4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to the part number above.  
 Example: BAV21WS-7-F.

**Marking Information**



XX = Product Type Marking Code  
(See Page 1)

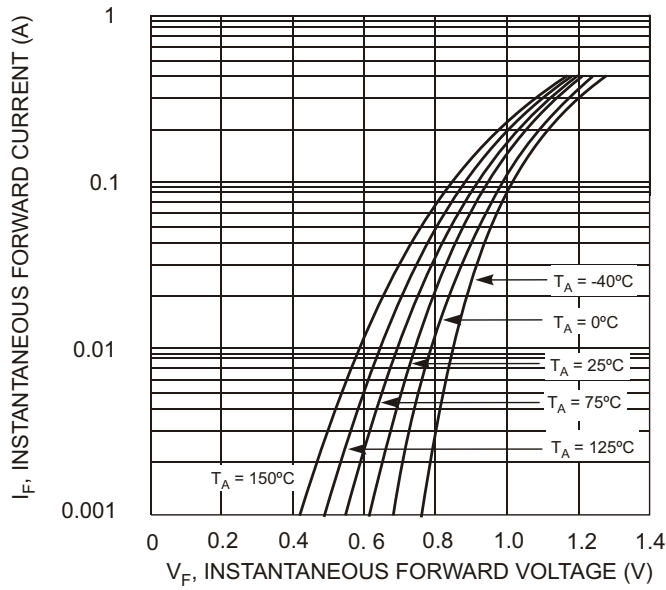


Fig. 1 Typical Forward Characteristics

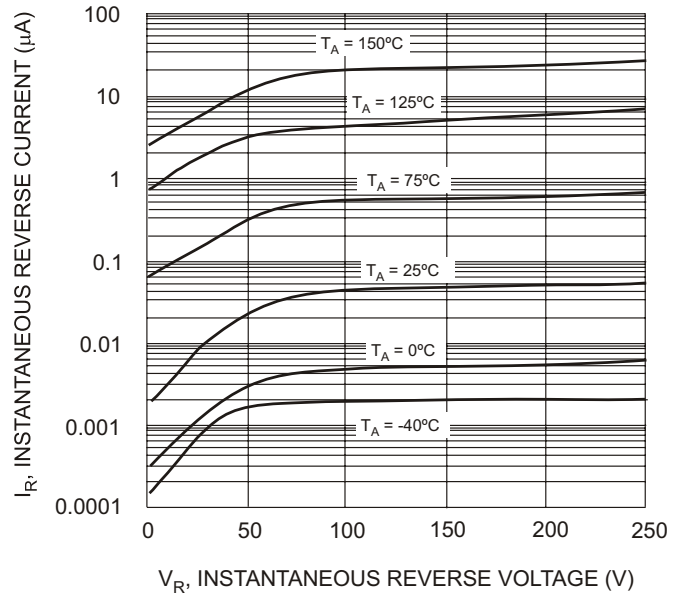


Fig. 2 Typical Reverse Characteristics

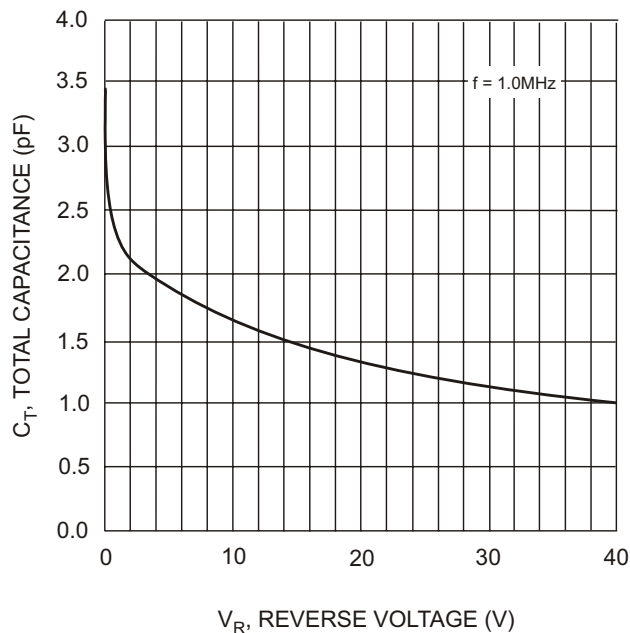


Fig. 3 Typical Capacitance vs. Reverse Voltage

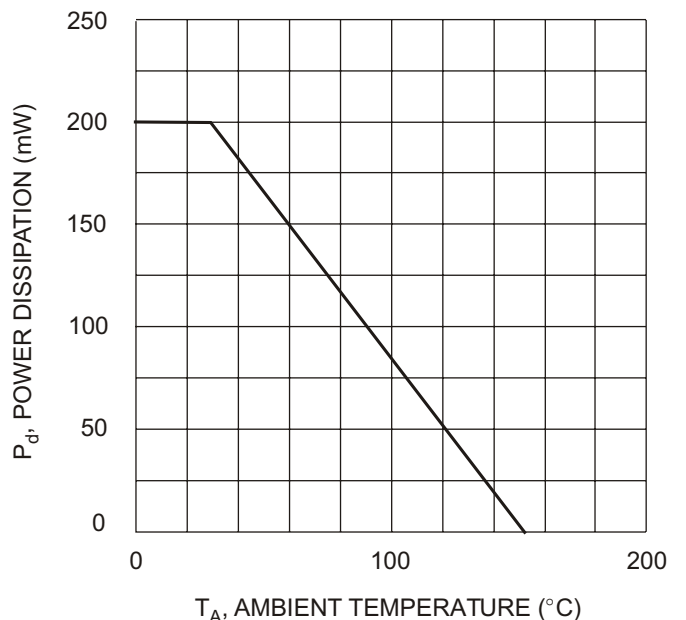


Fig. 4 Power Derating Curve, Total Package