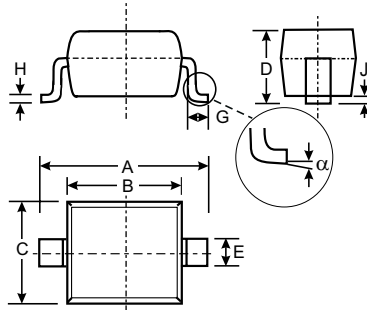


### Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

### 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
- 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<br>DC Blocking Voltage                                     | $V_{RWM}$<br>$V_R$ | 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 @ $t = 1.0\mu\text{s}$<br>@ $t = 1.0\text{s}$ | $I_{FSM}$          |         | 2.5<br>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)                           | $V_{(BR)R}$ | 120<br>200<br>250 | —           | V                   | $I_R = 100\mu\text{A}$   |
| Forward Voltage (Note 2)                                     | $V_{FM}$    | —                 | 1.0<br>1.25 | V                   | $I_F = 100\text{mA}$<br>$I_F = 200\text{mA}$                             |
| Peak Reverse Current<br>@ Rated DC Blocking Voltage (Note 2) | $I_{RM}$    | —                 | 100<br>15   | NA<br>$\mu\text{A}$ | $T_j = 25^\circ\text{C}$<br>$T_j = 100^\circ\text{C}$                    |
| Total Capacitance  | $C_t$       | —                 | 5.0         | pF                  | $V_R = 0, f = 1.0\text{MHz}$   |
| Reverse Recovery Time  | $t_{rr}$    | —                 | 50          | ns                  | $I_F = I_R = 30\text{mA},$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |

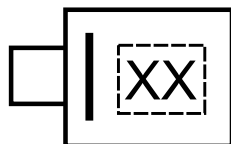
- Note:
1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test used to minimize self-heating effect.

## 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>.

## Marking Information



XX = Product Type Marking Code  
(See Page 1)

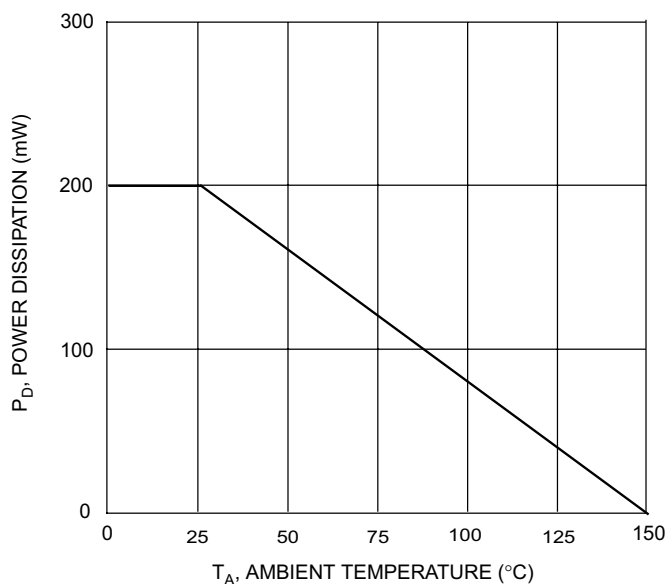


Fig. 1 Power Dissipation vs Ambient Temperature

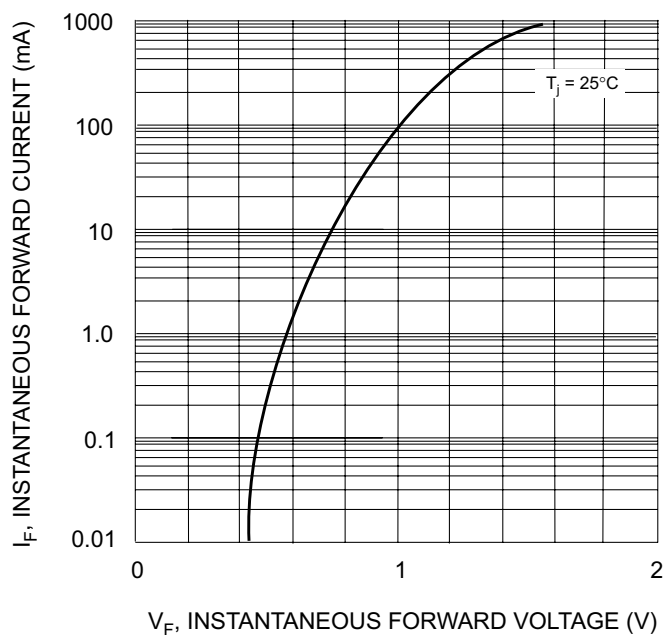


Fig. 2 Forward Characteristics

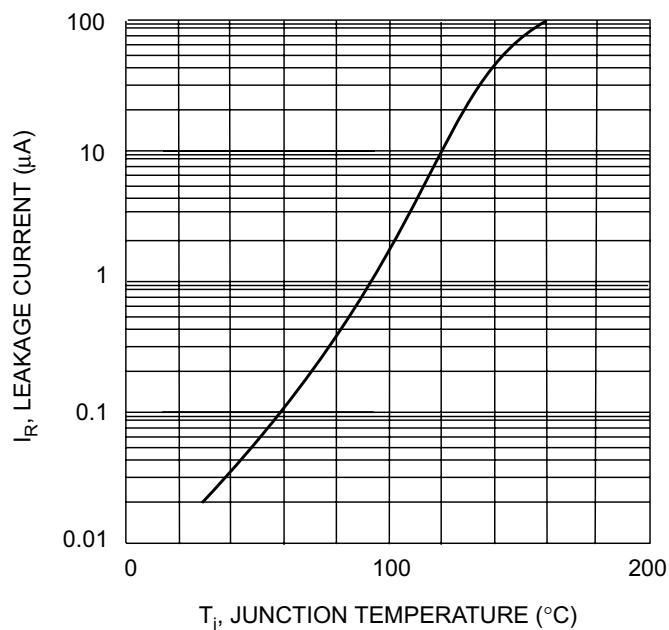


Fig. 3 Leakage Current vs Junction Temperature