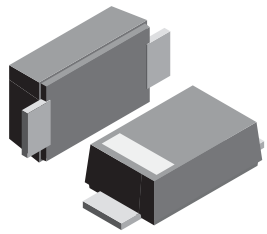
# BAV19WS - BAV21WS

## SURFACE MOUNT FAST SWITCHING DIODE



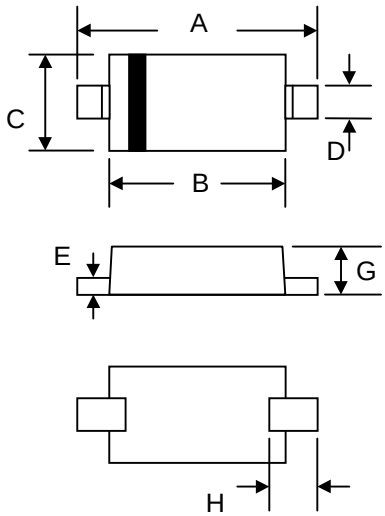
### Features

- 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
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)
- Marking: A3

RoHS COMPLIANT




| SOD-323 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 2.30 | 2.70 |
| **B** | 1.75 | 1.95 |
| **C** | 1.15 | 1.35 |
| **D** | 0.25 | 0.35 |
| **E** | 0.05 | 0.15 |
| **G** | 0.70 | 0.95 |
| **H** | 0.30 | — |
| **All Dimensions in mm** | | |

### Maximum Ratings @ $T_A$ = 25°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 | $I_{FM}$ | 400 | | | mA |
| Average Rectified Output Current | $I_O$ | 200 | | | mA |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0μs<br>@ t = 1.0s | $I_{FSM}$ | 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 | $R_{\theta JA}$ | 625 | | | °C/W |
| Operating and Storage Temperature Range | $T_j$ , $T_{STG}$ | -65 to +150 | | | °C |

### Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

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

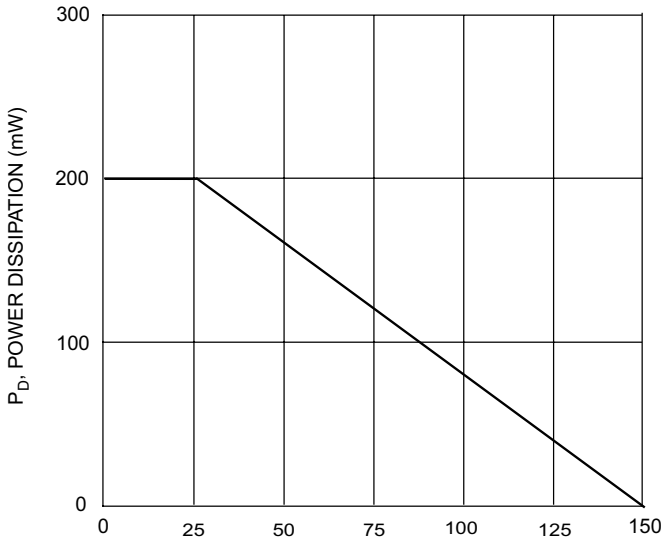


Fig. 1 Power Dissipation vs Ambient Temperature

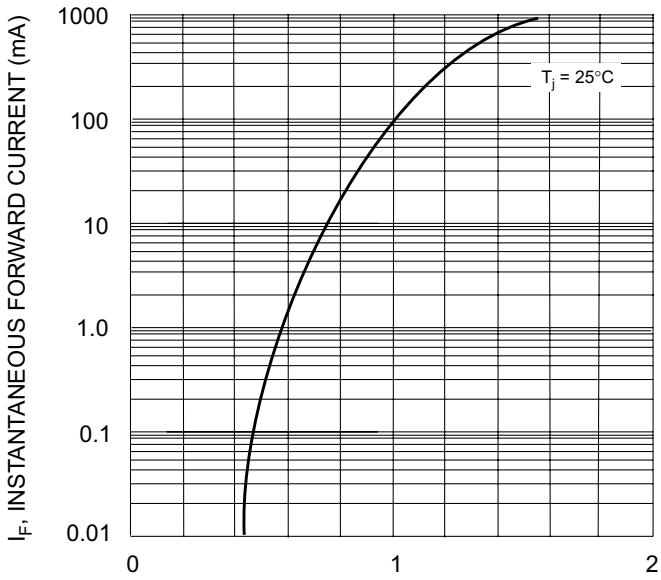


Fig. 2 Forward Characteristics

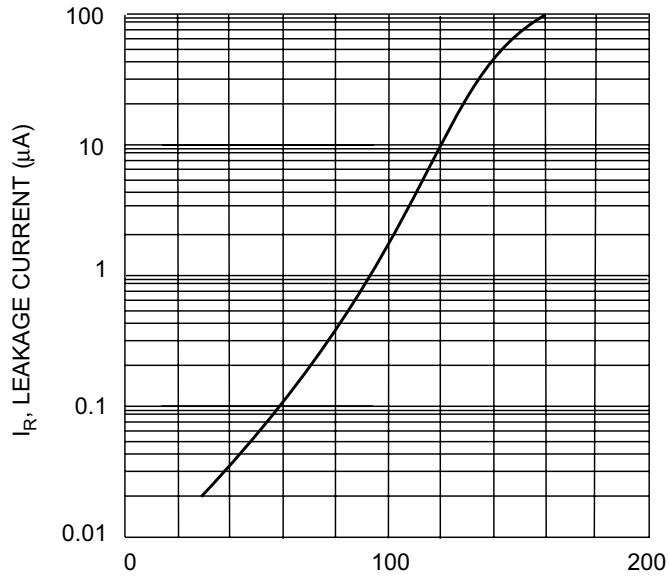


Fig. 3 Leakage Current vs Junction Temperature