# WEITRON

**BAV19W/BAV20W**
**BAV21W**

## Surface Mount Switching Diodes

**Lead(Pb)-Free**

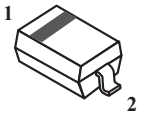
**SMALL SIGNAL**
**SWITCHING DIODES**
**200 AMPERES**
**120-250 VOLTS**

### Features:

*Fast Switching Speed
*Surface Mount Package Ideally Suited for Automatic Insertion
*For General Purpose Switching Applications

### Description:

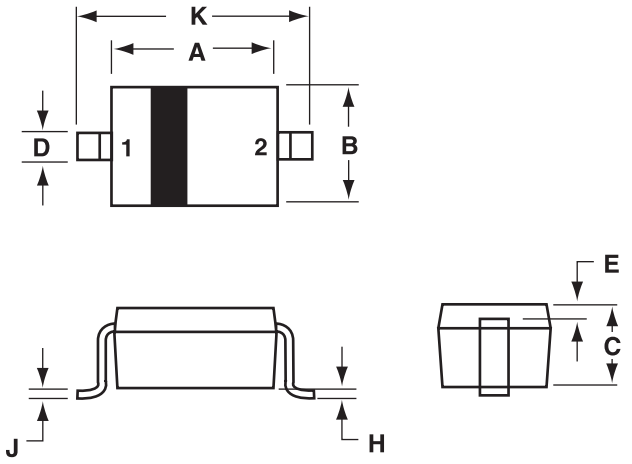
*Case: SOD-123, Molded Plastic
*Case Material: UL Flammability Rating Classification 94V-0
*Terminals: Solderable per MIL-STD-202, Method 208
*Polarity: Cathode Band
*Weight: 0.01 grams(approx.)




**SOD-123**

## SOD-123 Outline Dimensions

Unit:mm




| SOD-123 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 2.55 | 2.85 |
| **B** | 1.40 | 1.80 |
| **C** | 0.95 | 1.35 |
| **D** | 0.50 | 0.70 |
| **E** | 0.30 REF | |
| **H** | - | 0.10 |
| **J** | - | 0.15 |
| **K** | 3.55 | 3.85 |

PIN 1. CATHODE
2. ANODE

## Maximum Ratings ( $T_A$=25°C Unless otherwise noted)

| Characteristic | Symbol | BAV19W | BAV20W | BAV21W | Unit |
|---|---|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | $V_{RM}$ | 120 | 200 | 250 | V |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100 | 150 | 200 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 71 | 106 | 141 | V |
| Forward Continous Current | $I_{FM}$ | 400 | | | mA |
| Average Rectified Output Current | Io | 200 | | | mA |
| Non-Repetitive Peak Forward Surge Current @t=1.0ms<br>@t=1.0s | $I_{FSM}$ | 2.5<br>0.5 | | | A |
| Power Dissipation | PD | 250 | | | mW |
| Thermal Resistance junction to Ambient Air (1) | $R_{\theta JA}$ | 500 | | | °C/W |
| Operating & Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to +150 | | | °C |

## Electrical Characteristics ( $T_A$=25°C Unless otherwise noted)

| Characteristic | | Symbol | Min | Max | Unit |
|---|---|---|---|---|---|
| Reverse Reverse Breakdown Voltage ($I_R$=100 uA) | BAV19W<br>BAV20W<br>BAV21W | $V_{(BR)R}$ | 120<br>200<br>250 | -<br>-<br>- | V |
| Forward Voltage<br>($I_F$=100 mA)<br>($I_F$=200 mA) | | $V_F$ | -<br>- | 1.0<br>1.25 | V |
| Peak Reverse Current<br>@Rated DC Blocking Voltage<br>Tj=25°C<br>Tj=100°C | | $I_R$ | -<br>- | 100<br>15 | nA<br>uA |
| Total Capacitance<br>($V_R$=0, f=1.0MHz) | | $C_T$ | - | 5.0 | PF |
| Rverse Recovery Time<br>($I_F$=$I_R$=30mA)<br>($I_{rr}$=0.1×$I_R$, $R_L$=100Ω) | | $t_{rr}$ | - | 50 | ns |

Note:
1. Valid provided that terminals are kept at ambient temperature.

## Device Marking

| Item | Marking | Eqivalent Circuit diagram |
|---|---|---|
| BAV19W | A8 |  |
| BAV20W | T2 | |
| BAV21W | T3 | |

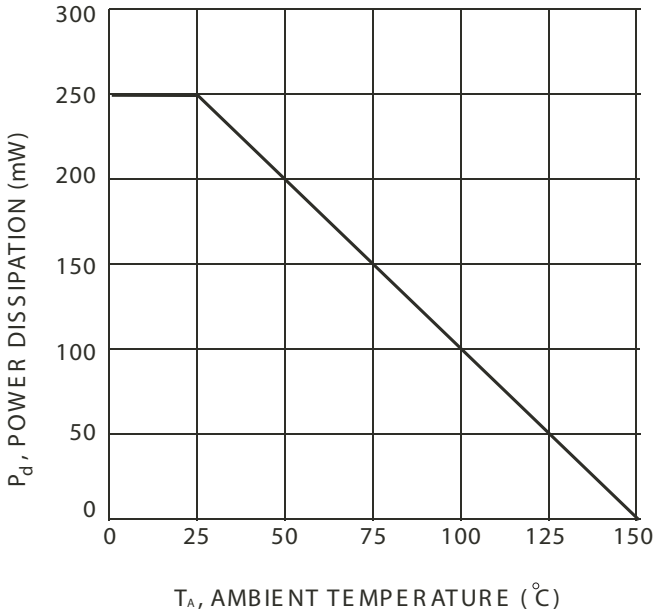



**FIG. 1 Power Derating Curve**

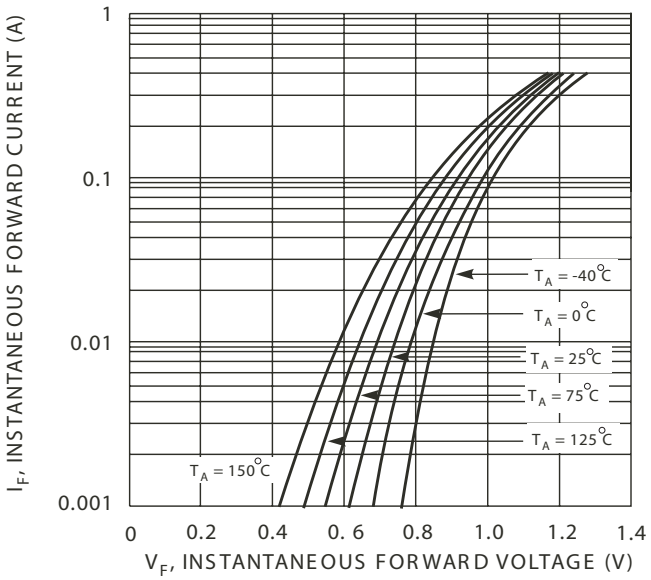



**FIG. 2 Typical Forward Characteristics**

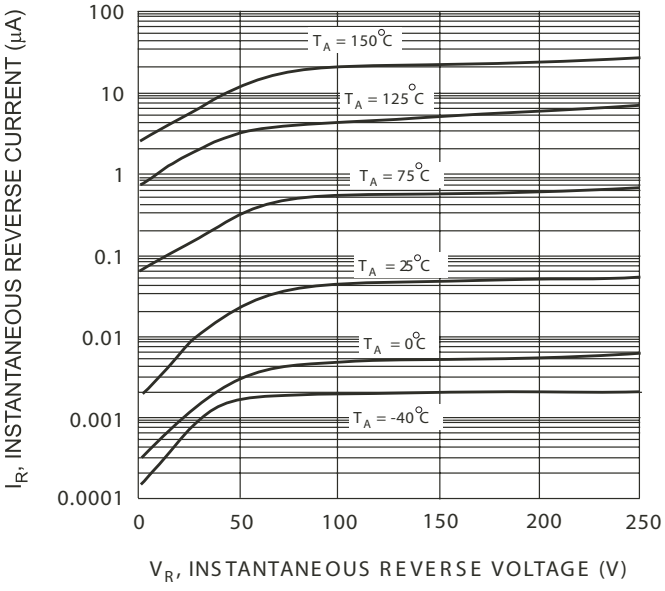



**FIG. 3 Typical Reverse Characteristics**

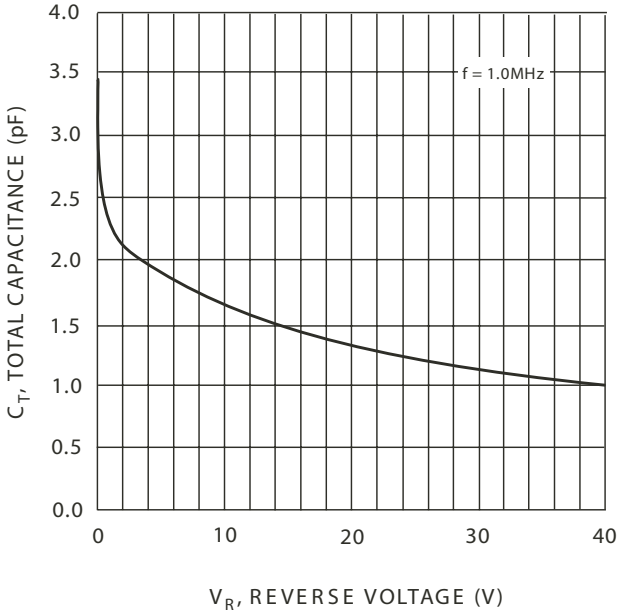



**FIG. 4 Typical Capacitance vs. Reverse Voltage**