



# THE DATASHEET OF BAV99-G



# Surface Mount Switching Diode

## BAV99 Thru BAW56 Voltage: 70 Volts Current: 215mA

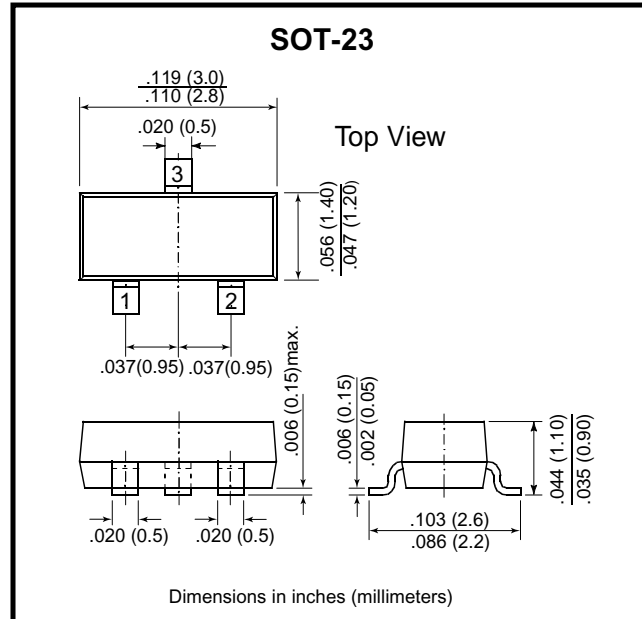
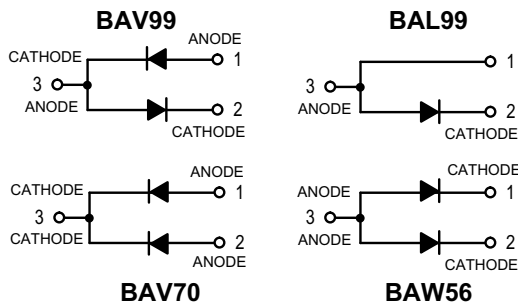
### Features

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

### Mechanical data

Case: SOT-23, Plastic  
Approx. Weight: 0.008 gram

This diodes is also available in other configurations including a dual common cathode with type designation BAV70, a dual common anodes with type designation BAW56 and single chip inside with type Designation BAL99



### Maximum Ratings

| Rating                     | Symbol                 | Value | Units    |
|----------------------------|------------------------|-------|----------|
| Continuous Reverse Voltage | $V_R$                  | 70    | $V_{DC}$ |
| Peak Forward Current       | $I_F$                  | 215   | mAdc     |
| Peak Forward Surge Current | $I_{FM}(\text{surge})$ | 500   | mAdc     |

### Thermal Characteristics

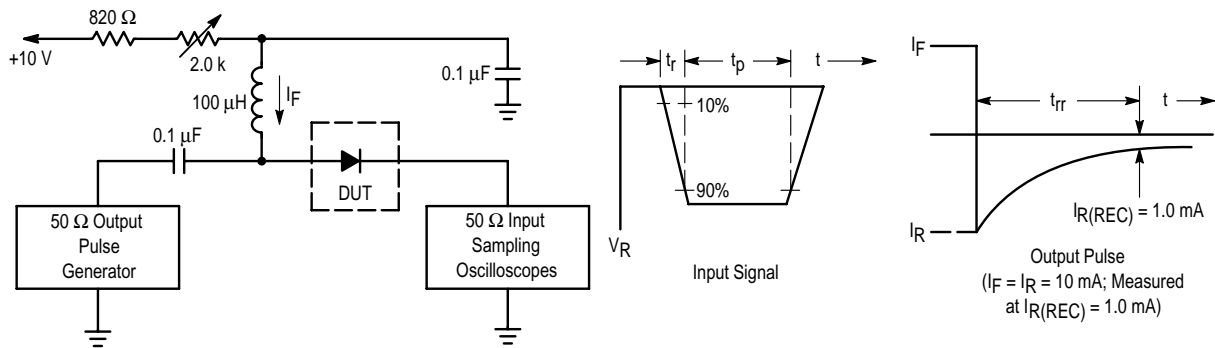
| Characteristic   | Symbol          | Max         | Units              |
|--|-----------------|-------------|--------------------|
| Total Device Dissipation FR-5 Board(1) $T_A = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$         | $P_D$           | 225         | mW                 |
| Thermal Resistance, Junction to Ambient  | $R_{\theta JA}$ | 556         | $^\circ\text{C/W}$ |
| Total Device Dissipation Alumina Substrate,(2) $T_A = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$ | $P_D$           | 300         | mW                 |
| Thermal Resistance, Junction to Ambient  | $R_{\theta JA}$ | 417         | $^\circ\text{C/W}$ |
| Junction and Storage Temperature   | $T_J, T_{stg}$  | -55 to +150 | $^\circ\text{C}$   |

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

| Characteristic (OFF CHARACTERISTICS)   | Symbol     | Min | Max  | Units           |
|--|------------|-----|------|-----------------|
| Reverse Breakdown Voltage ( $I_{BR} = 100 \mu\text{Adc}$ )   | $V_{(BR)}$ | 70  | -    | Vdc             |
| Reverse Voltage Leakage Current $V_R = 25 \text{ Vdc}, T_J = 150^\circ\text{C}$<br>$V_R = 70 \text{ Vdc}$<br>$V_R = 70 \text{ Vdc}, T_J = 150^\circ\text{C}$ | $I_R$      | -   | 30   | $\mu\text{Adc}$ |
|  |            | -   | 2.5  |                 |
|  |            | -   | 50   |                 |
| Diode Capacitance ( $V_R = 0, f = 1.0 \text{ MHz}$ )   | $C_D$      |     | 1.5  | pF              |
| Forward Voltage $I_F = 1.0 \text{ mAdc}$<br>$I_F = 10 \text{ mAdc}$<br>$I_F = 50 \text{ mAdc}$<br>$I_F = 150 \text{ mAdc}$                                   | VF         | -   | 715  | mV              |
|  |            | -   | 855  |                 |
|  |            | -   | 1000 |                 |
|  |            | -   | 1250 |                 |
| Reverse Recovery Time ( $I_F = I_R = 10 \text{ mAdc}, I_{R(REC)} = 1.0 \text{ mAdc}$ ) $R_L = 100\Omega$   | $T_{rr}$   |     | 6.0  | nS              |

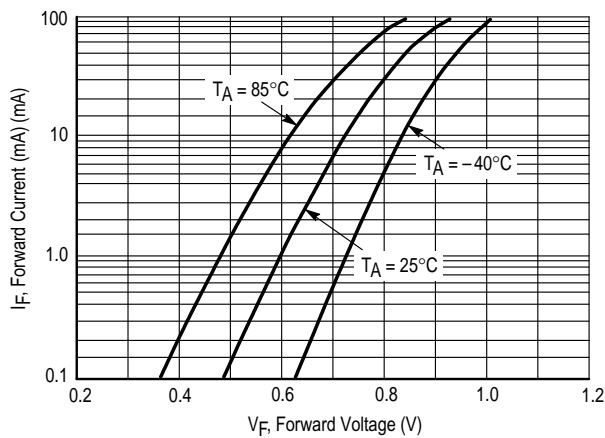
1.FR-5 = 1.0 X 0.75X 0.062 in. 2.Aluminum = 0.4X 0.3X 0.024 in. 99.5% aluminum.

## RATING AND CHARACTERISTIC CURVES (BAV99 Thru BAW56)

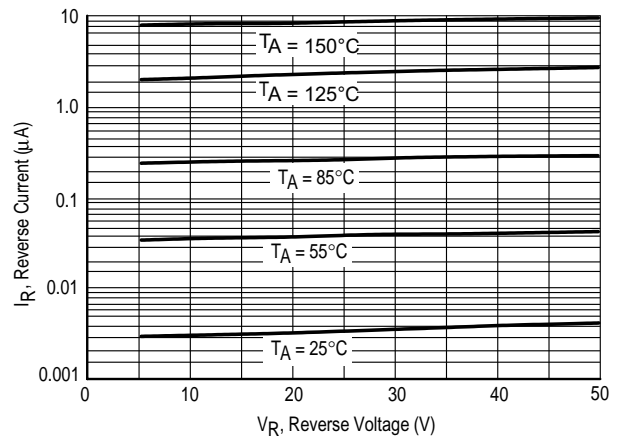


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
 2. Input pulse is adjusted so  $I_R(\text{peak})$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

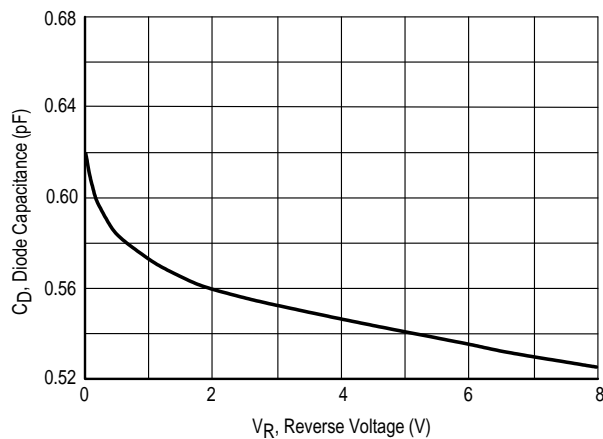
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**

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