



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

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## Features

### Fast Switching Speed

### Surface Mount Package Ideally Suited for Automatic Insertion

### For General Purpose Switching Applications

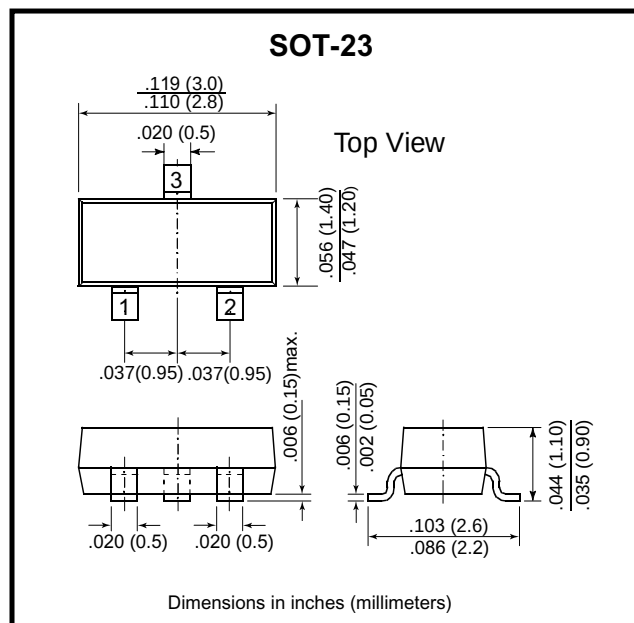
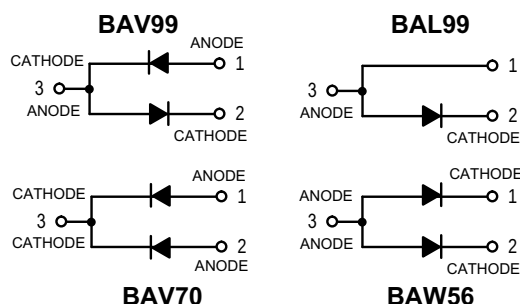
High Conductance

## 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

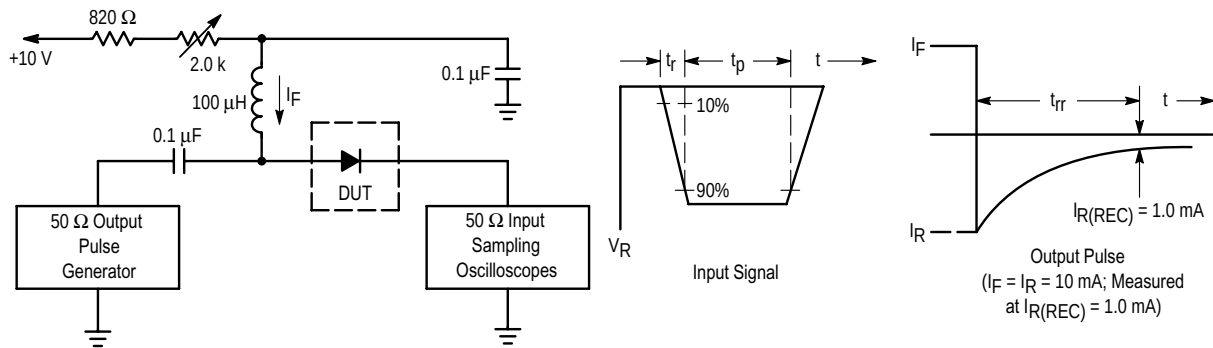
| Characteristic                                                            | Symbol         | Max             | Units                  |
|---------------------------------------------------------------------------|----------------|-----------------|------------------------|
| Total Device Dissipation FR– 5 Board(1) $T_A = 25^{\circ}\text{C}$        | $P_D$          | 225             | mW                     |
| Derate above $25^{\circ}\text{C}$                                         |                | 1.8             | mW/ $^{\circ}\text{C}$ |
| Thermal Resistance, Junction to Ambient                                   |                | $R_{\theta JA}$ | 556                    |
| Total Device Dissipation Alumina Substrate,(2) $T_A = 25^{\circ}\text{C}$ | $P_D$          | 300             | mW                     |
| Derate above $25^{\circ}\text{C}$                                         |                | 2.4             | mW/ $^{\circ}\text{C}$ |
| Thermal Resistance, Junction to Ambient                                   |                | $R_{\theta JA}$ | 417                    |
| Junction and Storage Temperature                                          | $T_J, T_{sto}$ | –55 to +150     | $^{\circ}\text{C}$     |

### Electrical Characteristics (TA = 25°C unless otherwise noted)

| Characteristic (OFF CHARACTERISTICS)                                                                        | Symbol     | Min | Max  | Units      |
|-------------------------------------------------------------------------------------------------------------|------------|-----|------|------------|
| Reverse Breakdown Voltage ( $I_{BR} = 100 \mu A$ )                                                          | $V_{(BR)}$ | 70  | -    | Vdc        |
| Reverse Voltage Leakage Current $V_R = 25 \text{ Vdc}$ , $T_J = 150^\circ C$                                | $I_R$      | -   | 30   | $\mu A$ dc |
| $V_R = 70 \text{ Vdc}$                                                                                      |            | -   | 2.5  |            |
| $V_R = 70 \text{ Vdc}$ , $T_J = 150^\circ C$                                                                |            | -   | 50   |            |
| Diode Capacitance ( $V_R = 0$ , $f = 1.0 \text{ MHz}$ )                                                     | $C_D$      |     | 1.5  | pF         |
| Forward Voltage $I_F = 1.0 \text{ mAdc}$                                                                    | VF         | -   | 715  | mV         |
| $I_F = 10 \text{ mAdc}$                                                                                     |            | -   | 855  |            |
| $I_F = 50 \text{ mAdc}$                                                                                     |            | -   | 1000 |            |
| $I_F = 150 \text{ mAdc}$                                                                                    |            | -   | 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         |

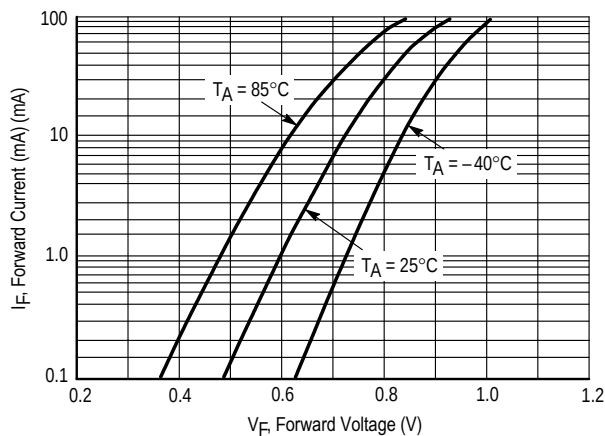
1.FR-5 = 1.0 X 0.75X 0.062 in.    2.Aluminum = 0.4X 0.3X 0.024 in. 99.5% aluminum.

## RATING AND CHARACTERISTIC CURVES (BAV99 Thru BAW56)

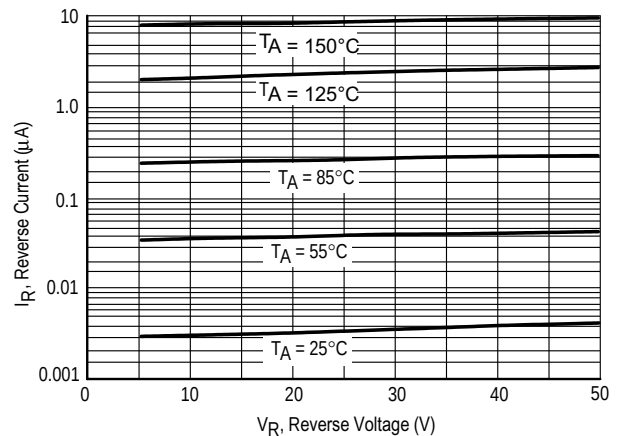


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
2. Input pulse is adjusted so  $I_R(\text{peak})$  is equal to 10 mA.  
3.  $t_p \gg t_{rr}$

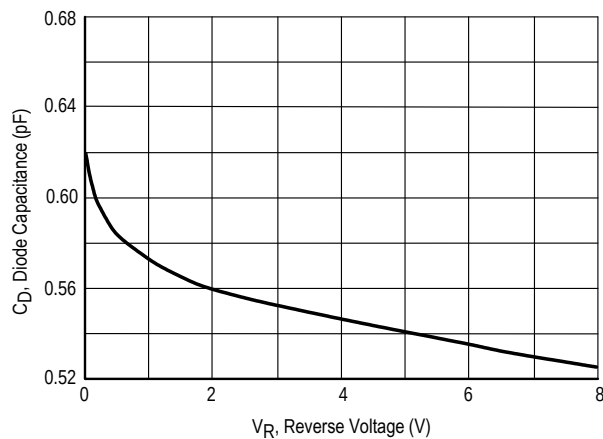
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**