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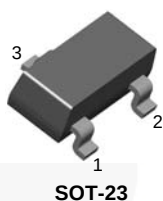
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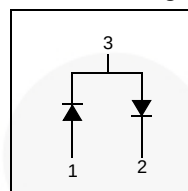
February 2015

## BAV23S

### Small Signal Diode



Connection Diagram



### Ordering Information

| Part Number | Top Mark | Package   | Packing Method |
|-------------|----------|-----------|----------------|
| BAV23S      | L30      | SOT-23 3L | Tape and Reel  |

### Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol      | Parameter                                 |                               | Value       | Unit             |
|-------------|-------------------------------------------|-------------------------------|-------------|------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage        |                               | 250         | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current         |                               | 200         | mA               |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current | Pulse Width = 1.0 microsecond | 9.0         | A                |
|             |                                           | Pulse Width = 100 microsecond | 3.0         |                  |
| $T_{STG}$   | Storage Temperature Range                 |                               | -55 to +150 | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature            |                               | 150         | $^\circ\text{C}$ |

### Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

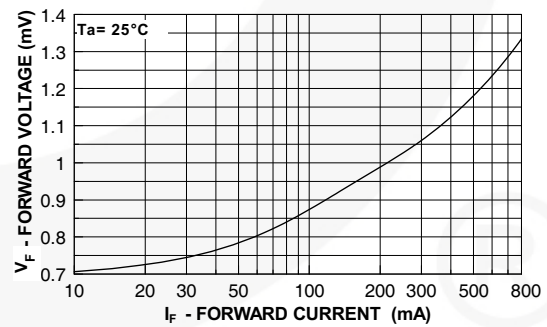
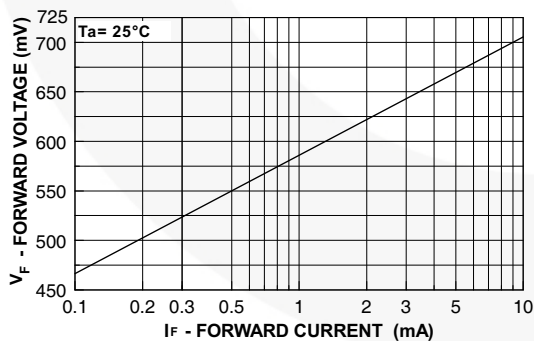
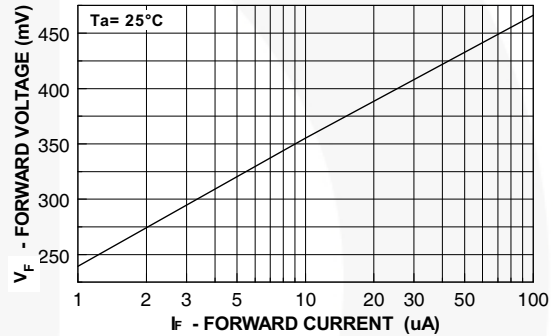
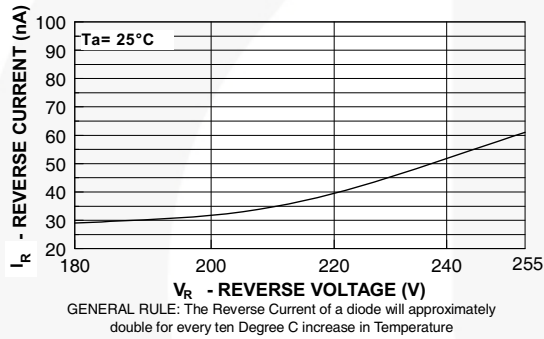
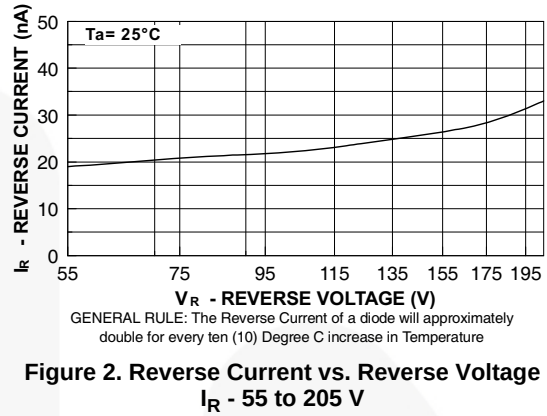
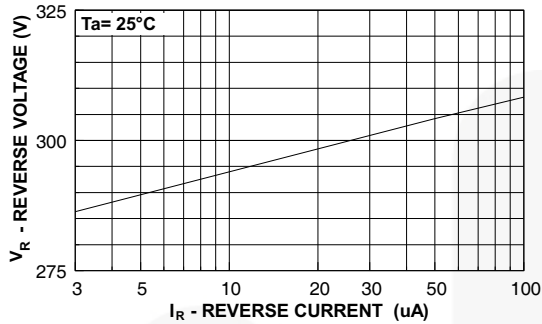
| Symbol          | Parameter                               | Max. | Unit               |
|-----------------|-----------------------------------------|------|--------------------|
| $P_D$           | Power Dissipation                       | 350  | mW                 |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient | 357  | $^\circ\text{C/W}$ |

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol   | Parameter             | Conditions                                                              | Min. | Max. | Unit          |
|----------|-----------------------|-------------------------------------------------------------------------|------|------|---------------|
| $B_V$    | Breakdown Voltage     | $I_R = 100\ \mu\text{A}$                                                | 250  |      | V             |
| $V_F$    | Forward Voltage       | $I_F = 100\ \text{mA}$                                                  |      | 1.0  | V             |
|          |                       | $I_F = 200\ \text{mA}$                                                  |      | 1.25 | V             |
| $I_R$    | Reverse Leakage       | $V_R = 250\ \text{V}$                                                   |      | 100  | nA            |
|          |                       | $V_R = 250\ \text{V}, T_A = 150^\circ\text{C}$                          |      | 100  | $\mu\text{A}$ |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R = 30\ \text{mA}, I_{RR} = 3.0\ \text{mA}, R_L = 100\ \Omega$ |      | 50   | ns            |

## Typical Performance Characteristics



# Typical Performance Characteristics (Continued)

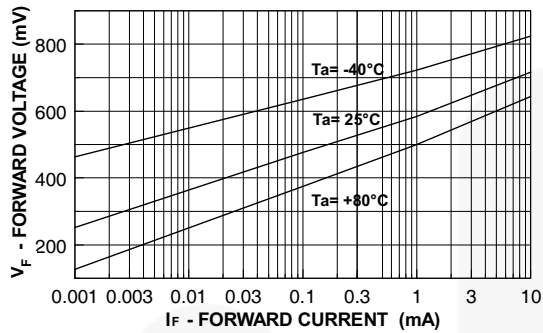


Figure 7. Forward Voltage vs. Ambient Temperature  
 $V_F$  - 1.0  $\mu\text{A}$  - 10 mA (- 40 to +80°C)

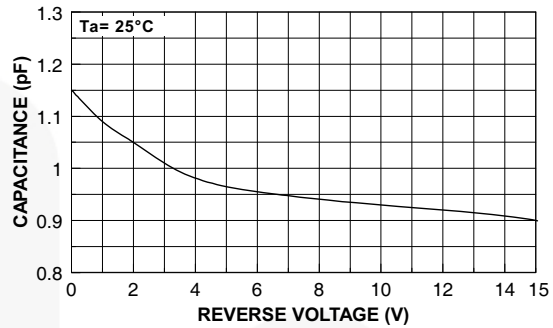


Figure 8. Capacitance vs. Reverse Voltage

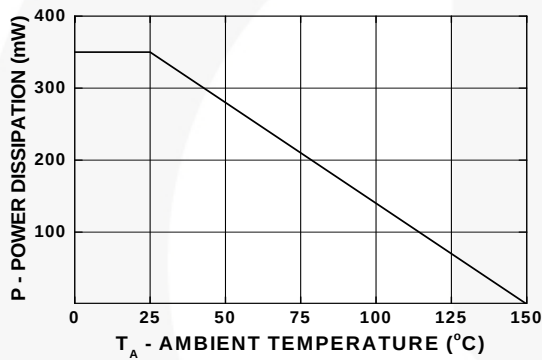


Figure 9. Power Derating Curve

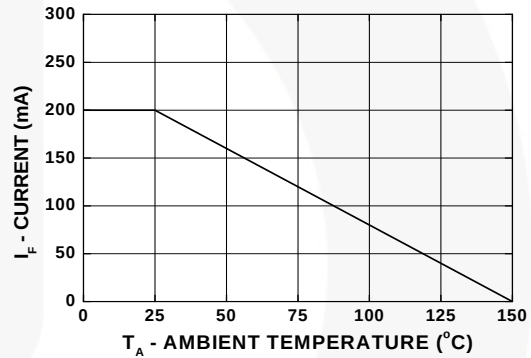


Figure 10. Average Rectified Current( $I_O$ ) vs. Ambient Temperature( $T_A$ )

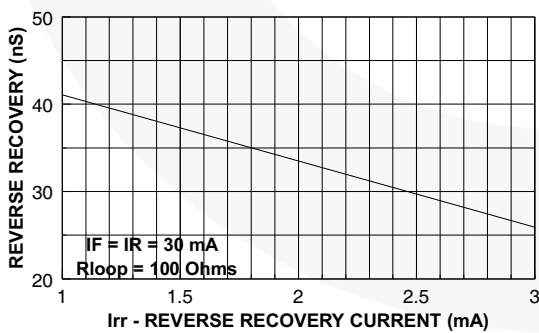


Figure 11. Reverse Recovery Time vs.  
Reverse Recovery Current ( $I_{rr}$ )

Technical drawing of a 0.25mm pitch QFN package. The drawing includes a top view, a side view, and a detail view (DETAIL A).

**Top View Dimensions:**

- Overall width:  $2.92 \pm 0.20$
- Overall height:  $1.30^{+0.20}_{-0.15}$
- Pin pitch: 0.95
- Pin width: 0.60
- Pin height: 0.37
- Pin spacing: 1.90
- Pin diameter:  $\varnothing 0.20$
- Pin position: A B

**Side View Dimensions:**

- Maximum height: 1.20 MAX
- Height at pin: (0.93)
- Pin height: 0.10
- Pin position: C

**DETAIL A Dimensions:**

- Seating plane: 0.25
- Gage plane: 0.23
- Seating plane offset: 0.08
- Seating plane offset: 0.20 MIN
- Seating plane offset: (0.55)

**LAND PATTERN RECOMMENDATION:**

- Overall width: 1.90
- Overall height: 2.20
- Pin pitch: 0.95
- Pin width: 0.60
- Pin height: 0.37
- Pin spacing: 1.00

**NOTES:** UNLESS OTHERWISE SPECIFIED

- A) REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE H.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS ARE INCLUSIVE OF BURR, MOLD FLASH AND TIE BAR EXTRUSIONS.
- D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 1994.
- E) DRAWING FILE NAME: MA03DREV10

**DETAIL A**  
SCALE: 2X



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