

**SURFACE MOUNT
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 70 Volts
FORWARD CURRENT – 0.2 Ampere**

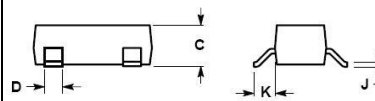
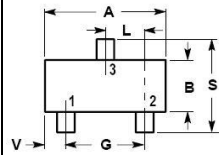
FEATURES

- Fast Switching Speed
- Ideally Suited for Automatic Insertion
- For general purpose switching applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

MECHANICAL DATA

- Package: SOT-23 Plastic
- Package Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

SOT-23



| SOT-23 | | |
|--------------------------|-------|-------|
| Dim. | Min. | Max. |
| A | 2.80 | 3.04 |
| B | 1.20 | 1.40 |
| C | 0.89 | 1.11 |
| D | 0.37 | 0.50 |
| G | 1.78 | 2.04 |
| J | 0.085 | 0.177 |
| K | 0.35 | 0.69 |
| L | 0.89 | 1.02 |
| S | 2.10 | 2.64 |
| V | 0.45 | 0.60 |
| Dimensions in millimeter | | |

Maximum Ratings & Thermal Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | BAV99 | Unit |
|--|-----------------------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage DC Blocking Voltage | V _{RM} V _R | 70 | V |
| Forward Current | I _F | 200 | mA |
| Peak Forward Surge Current @t=10ms | I _{FSM} | 500 | mA |
| Power Dissipation | P _D | 225 | mW |
| Thermal Resistance, Junction to Ambient | R _{thJA} | 556 | °C/W |
| Operating Temperature Range | T _J | 150 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Test Condition | Symbol | Min. | Typ. | Max. | Unit |
|---|--|-----------------|------|------|------|------|
| Reverse Breakdown Voltage | I _R = 100uA | V _{BR} | 70 | -- | -- | V |
| Maximum Forward Voltage | I _F = 1mA | V _F | -- | -- | 715 | mV |
| | I _F = 10mA | | -- | -- | 855 | |
| | I _F = 50mA | | -- | -- | 1000 | |
| | I _F = 150mA | | -- | -- | 1250 | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | V _R = 75V | I _R | -- | -- | 2.5 | uA |
| Typical Diode Capacitance | V _R = 1V, f = 1MHz | C _D | -- | -- | 1.5 | pF |
| Reverse Recovery time | I _{tr} = 1mA, I _F = I _R = 10mA, R _L = 100Ω | t _{rr} | -- | -- | 6 | ns |

RATING AND CHARACTERISTIC CURVES
BAV99

Fig.1 Typical Forward Characteristics

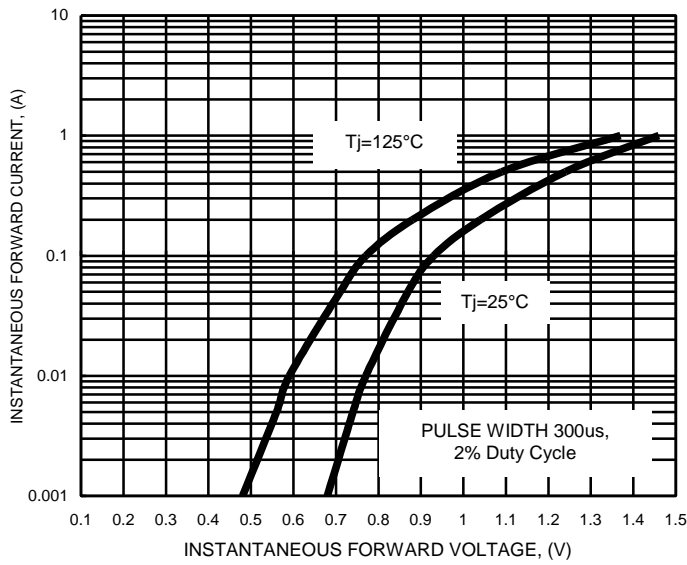


Fig.2 Typical Reverse Characteristics

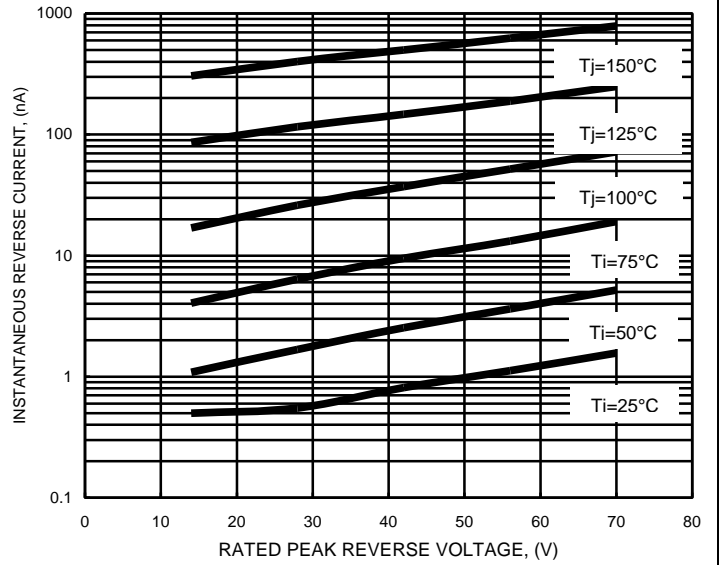
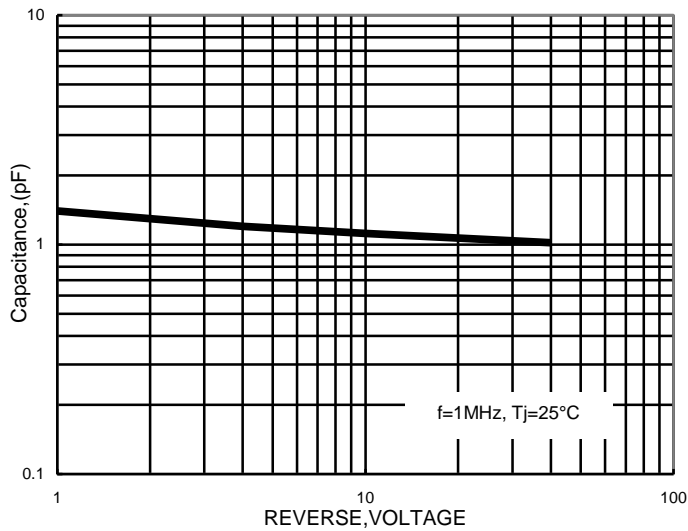


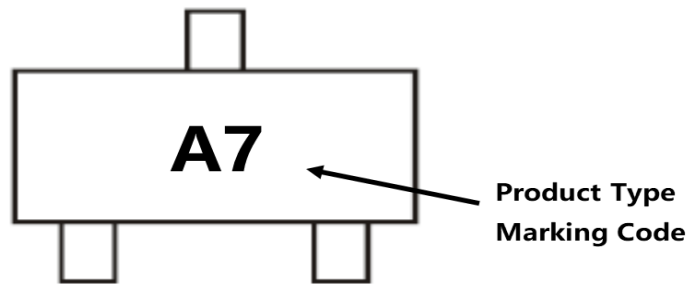
Fig.3 Total Capacitance vs. Reverse Voltage



Ordering Information :

| Part Number | Package | Packing | |
|-------------|---------|---------|-------------|
| | | Qty. | Carrier |
| BAV99 | SOT-23 | 3000pcs | Tape & Reel |

Marking Information :



Device Marking:

| Device P/N | Marking | Equivalent Circuit Diagram |
|------------|---------|---|
| BAV99 | A7 | <p>The equivalent circuit diagram shows a diode symbol with three terminals. Terminal 3 is on the left, terminal 1 is at the top right, and terminal 2 is at the bottom right. The diode symbol is oriented with its cathode (indicated by a vertical line) towards terminal 1 and its anode (indicated by a vertical line with a horizontal bar) towards terminal 2.</p> |

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