

**SURFACE MOUNT
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 85 Volts
FORWARD CURRENT – 0.075 Ampere**

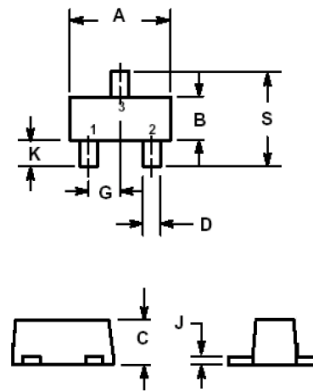
FEATURES

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications

MECHANICAL DATA

- Case: SOT-523 Plastic
- Case 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-523



| SOT-523 | | |
|--------------------------|----------|------|
| Dim. | Min. | Max. |
| A | 1.50 | 1.70 |
| B | 0.75 | 0.95 |
| C | 0.60 | 0.80 |
| D | 0.23 | 0.33 |
| G | 0.50 BSC | |
| H | 0.53 REF | |
| J | 0.10 | 0.20 |
| K | 0.30 | 0.50 |
| L | 1.10 REF | |
| S | 1.5 | 1.7 |
| Dimensions in millimeter | | |

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

| Characteristic | Symbol | BAV70T | Units |
|---|------------------|----------|-------|
| Working Peak Reverse Voltage DC Blocking Voltage | V _R | 85 | V |
| Average Rectified Output Current | I _O | 75 | mA |
| Non-Repetitive Peak Forward Surge Current @t=1.0us | I _{FSM} | 4.5 | A |
| Power Dissipation | P _D | 200 | mW |
| Thermal Resistance Junction to Ambient | R _{θJA} | 625 | °C/W |
| Operating Temperature Range | T _J | 150 | °C |
| Storage Temperature Range | T _{STG} | -65~+150 | °C |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Test Condition | Symbol | Min. | Typ. | Max. | Unit |
|---|---|-----------------|------|------|------|------|
| Reverse Breakdown Voltage | I _R = 1uA | V _{BR} | 85 | -- | -- | 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 | uA |
| | V _R = 25V | | -- | -- | 0.03 | |
| Typical Diode Capacitance | V _R = 0V, f=1MHz | C _D | -- | -- | 1.5 | pF |
| Reverse Recovery time | I _{rr} =1mA, I _R =I _F =10mA R _L =100Ω | trr | -- | -- | 4 | ns |

RATING AND CHARACTERISTIC CURVES BAV70T



Fig.1 Current Derating Curve

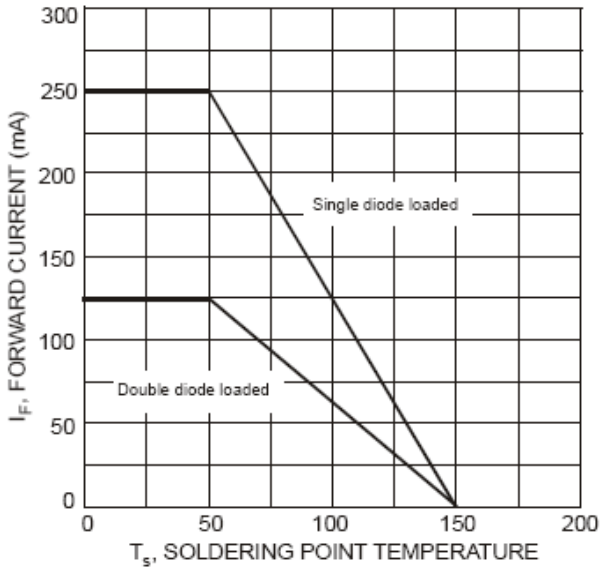


Fig.2 Typical Forward Characteristics

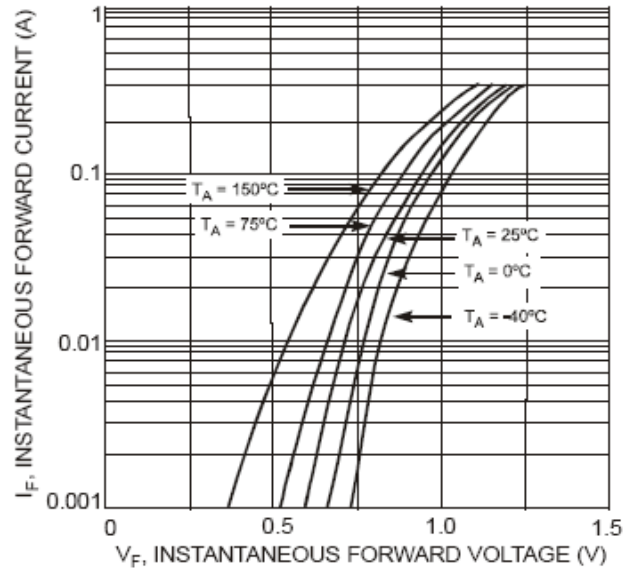
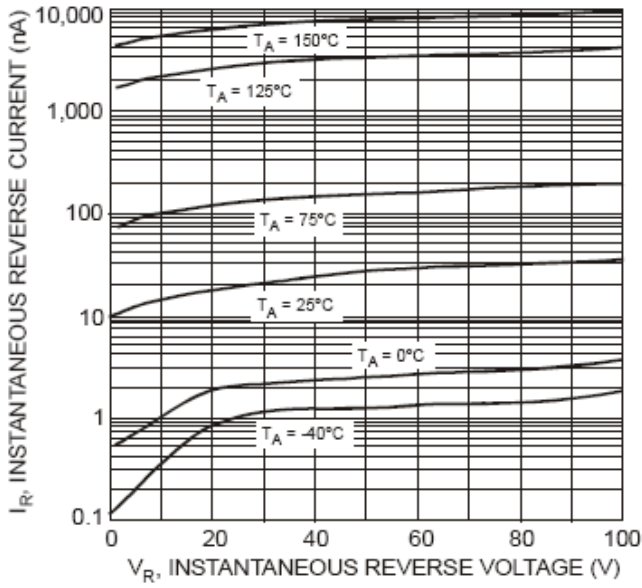


Fig.3 Typical Reverse Characteristics



Device Marking :

| Device P/N | Marking code | Equivalent Circuit Diagram |
|------------|--------------|---|
| BAV70T | A4 | <p>The diagram shows a diode symbol with three terminals. Terminal 3 is on the left, terminal 1 is on the top right, and terminal 2 is on the bottom right. The diode symbol is oriented with the cathode (line) towards terminal 3 and the anode (arrow) towards terminal 1.</p> |

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New Marking Rule Notification

Range: In order to have well management in process control, the new marking rule is applied to small signal device including Switching Diode, Transistor and Schottky Diode.

Package: SOT-23 / SOT-323 / SOT-523

