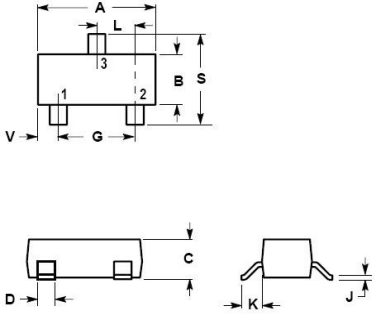


| <p>SURFACE MOUNT FAST SWITCHING DIODE</p> | <p>REVERSE VOLTAGE – 85 Volts FORWARD CURRENT – 0.215 Ampere</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------|--|--|------|------|------|---|------|------|---|------|------|---|------|------|---|------|------|---|------|------|---|-------|-------|---|------|------|---|------|------|---|------|------|---|------|------|
| <p>FEATURES</p> <ul style="list-style-type: none"> • Fast Switching Speed • Ideally Suited for Automatic Insertion • For general purpose switching applications <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case: SOT-23 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 | <p style="text-align: center;">SOT-23</p> <div style="display: flex; align-items: center; justify-content: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="3">SOT-23</th> </tr> <tr> <th>Dim.</th> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr><td>A</td><td>2.80</td><td>3.04</td></tr> <tr><td>B</td><td>1.20</td><td>1.40</td></tr> <tr><td>C</td><td>0.89</td><td>1.11</td></tr> <tr><td>D</td><td>0.37</td><td>0.50</td></tr> <tr><td>G</td><td>1.78</td><td>2.04</td></tr> <tr><td>J</td><td>0.085</td><td>0.177</td></tr> <tr><td>K</td><td>0.35</td><td>0.69</td></tr> <tr><td>L</td><td>0.89</td><td>1.02</td></tr> <tr><td>S</td><td>2.10</td><td>2.64</td></tr> <tr><td>V</td><td>0.45</td><td>0.60</td></tr> </tbody> </table> </div> <p style="text-align: center; font-size: small;">Dimensions in millimeter</p> | 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 |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S | 2.10 | 2.64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V | 0.45 | 0.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

| Characteristic | Symbol | BAV199 | Units |
|--|--|------------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 85 | V |
| Forward Continuous Current | Single diode Double diode | 215 125 | mA |
| Non-Repetitive Peak Forward Surge Current @t=1sec | I _{FSM} | 500 | mA |
| Power Dissipation (Note 1) | P _D | 150 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | R _{θJA} | 833 | °C/W |
| Operating Junction Temperature Range | T _J | 150 | °C |
| Storage Temperature Range | T _{STG} | -55~+150 | °C |

Note: 1) Device mounted on FR-4 PC board with recommended pad layout,

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} | 85 | -- | -- | V |
| Maximum Forward Voltage | I _F = 1mA I _F = 10mA I _F = 50mA I _F = 150mA | V _F | -- | -- | 0.9 1.0 1.1 1.25 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | V _R = 75V | I _R | -- | -- | 5 | nA |
| Typical Diode Capacitance | V _R = 1V, f = 1MHz | C _D | -- | 2 | -- | pF |
| Reverse Recovery time | I _{rr} = 1mA, I _F = I _R = 10mA, R _L = 100Ω | t _{rr} | -- | -- | 3 | us |

**RATING AND CHARACTERISTIC CURVES
BAV199**



Fig.1 Power Derating Curve

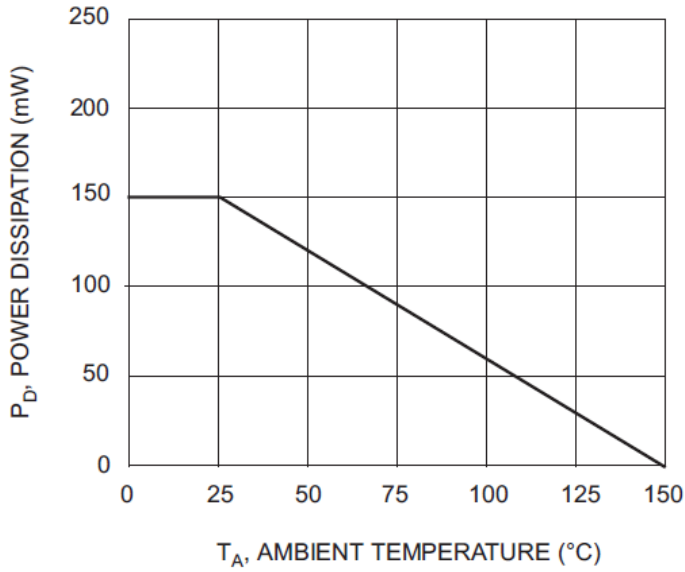


Fig.2 Typical Forward Characteristics

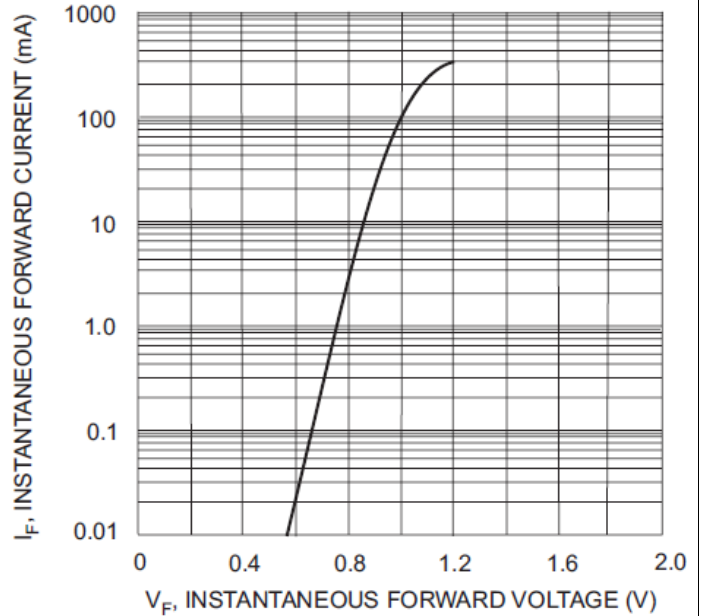


Fig.3 Typical Reverse Characteristics

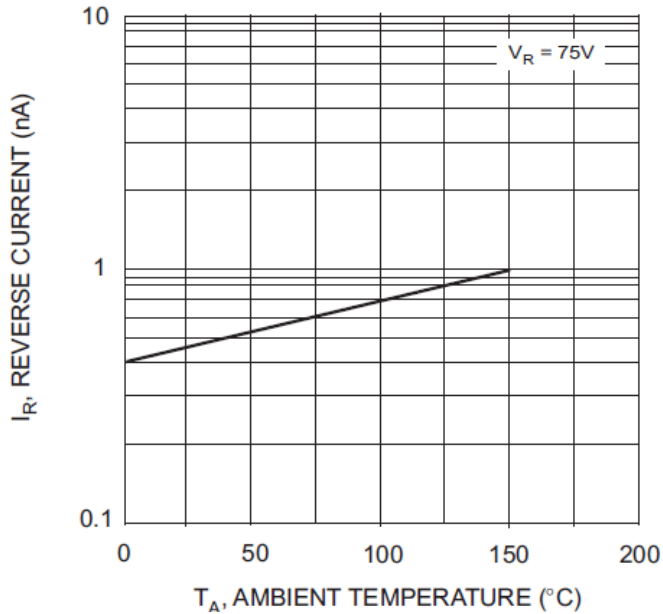
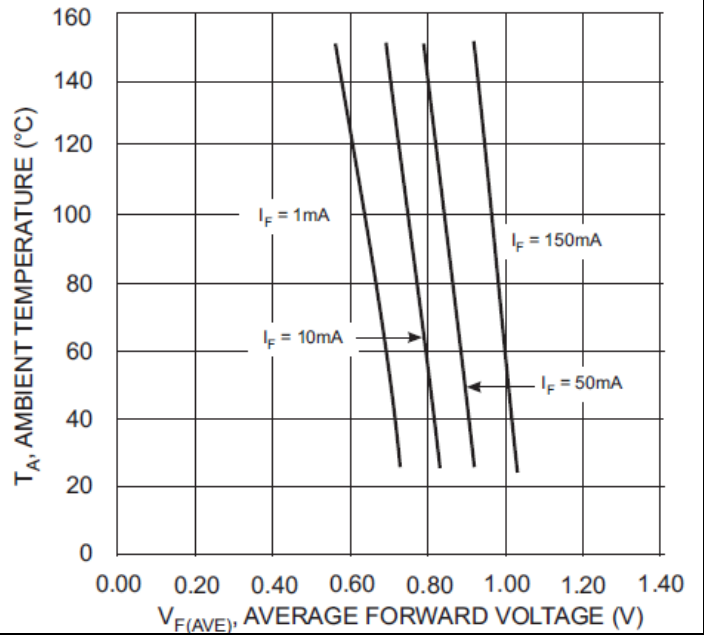


Fig.4 Forward Voltage vs. Ambient Temperature



Device Marking :

| Device P/N | Marking | Equivalent Circuit Diagram |
|------------|---------|----------------------------|
| BAV199 | 52 | |

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