

BAV199LT1

Preferred Device

Dual Series Switching Diode

Features

- Low Leakage Current Applications
- Medium Speed Switching Times
- Available in 8 mm Tape and Reel
 - Use BAV199LT1 to order the 7 inch/3,000 unit reel
 - Use BAV199LT3 to order the 13 inch/10,000 unit reel

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|-----------------|-------------------|------|
| Reverse Voltage | V_R | 70 | Vdc |
| Forward Current | I_F | 215 | mAdc |
| Peak Forward Surge Current | $I_{FM(surge)}$ | 500 | mAdc |
| Repetitive Peak Reverse Voltage | V_{RRM} | 70 | Vdc |
| Average Rectified Forward Current (Note 1) (averaged over any 20 ms period) | $I_{F(AV)}$ | 715 | mAdc |
| Repetitive Peak Forward Current | I_{FRM} | 450 | mAdc |
| Non-Repetitive Peak Forward Current $t = 1.0 \mu s$ $t = 1.0 ms$ $t = 1.0 s$ | I_{FSM} | 2.0 1.0 0.5 | Adc |

THERMAL CHARACTERISTICS

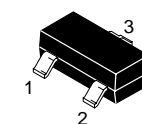
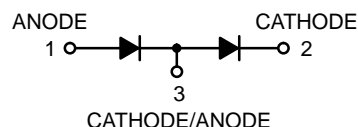
| Characteristic | Symbol | Max | Unit |
|---|-----------------|----------------|----------------------|
| Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ C$ Derate above $25^\circ C$ | P_D | 225 1.8 | mW mW/ $^\circ C$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 556 | $^\circ C/W$ |
| Total Device Dissipation Alumina Substrate (Note 2) $T_A = 25^\circ C$ Derate above $25^\circ C$ | P_D | 300 2.4 | mW mW/ $^\circ C$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417 | $^\circ C/W$ |
| Junction and Storage Temperature | T_J, T_{stg} | -65 to +150 | $^\circ C$ |

1. FR-5 = $1.0 \times 0.75 \times 0.062$ in.
2. Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.



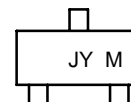
ON Semiconductor®

<http://onsemi.com>



CASE 318
SOT-23
Style 11

MARKING DIAGRAM



JY = Device Code
M = Date Code

ORDERING INFORMATION

| Device | Package | Shipping [†] |
|-----------|---------|-----------------------|
| BAV199LT1 | SOT-23 | 3000/Tape & Reel |
| BAV199LT3 | SOT-23 | 3000/Tape & Reel |

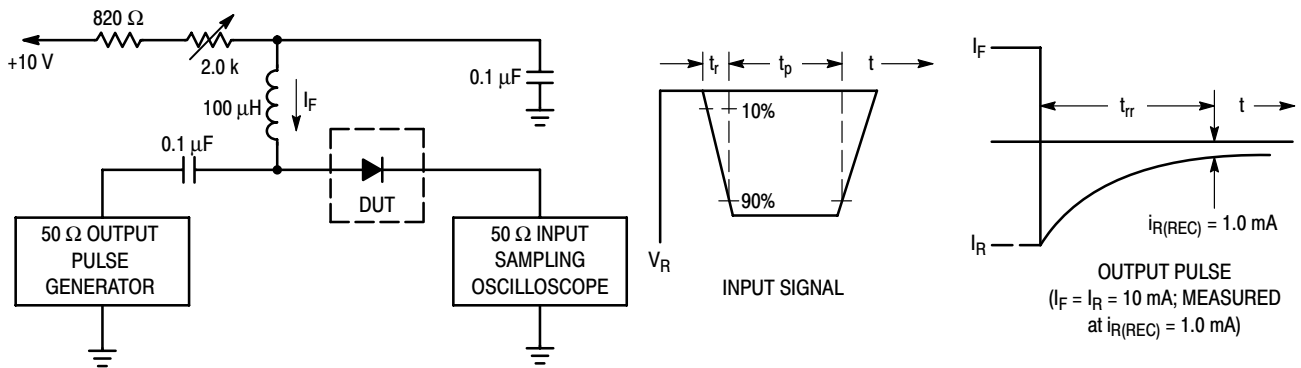
[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

BAV199LT1

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

| Characteristic | Symbol | Min | Max | Unit |
|---|------------|------------------|-----------------------------|---------------|
| OFF CHARACTERISTICS | | | | |
| Reverse Breakdown Voltage ($I_{(BR)} = 100 \mu\text{Adc}$) | $V_{(BR)}$ | 70 | — | Vdc |
| Reverse Voltage Leakage Current ($V_R = 70 \text{ Vdc}$) ($V_R = 70 \text{ Vdc}, T_J = 150^\circ\text{C}$) | I_R | — — | 5.0 80 | nAdc |
| Diode Capacitance ($V_R = 0 \text{ V}, f = 1.0 \text{ MHz}$) | C_D | — | 2.0 | pF |
| Forward Voltage ($I_F = 1.0 \text{ mAdc}$) ($I_F = 10 \text{ mAdc}$) ($I_F = 50 \text{ mAdc}$) ($I_F = 150 \text{ mAdc}$) | V_F | — — — — | 900 1000 1100 1250 | mVdc |
| Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$) (Figure 1) | t_{rr} | — | 3.0 | μs |



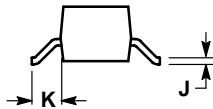
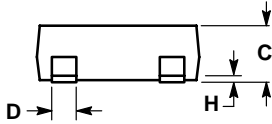
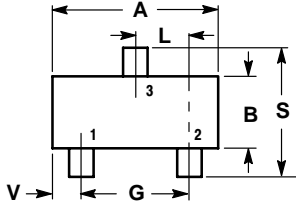
- Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AI



NOTES:

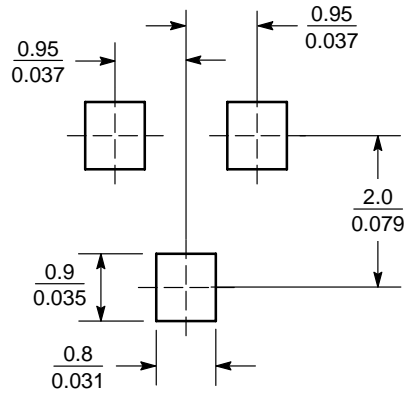
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-03 AND -07 OBSOLETE, NEW STANDARD 318-08.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|--------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.1102 | 0.1197 | 2.80 | 3.04 |
| B | 0.0472 | 0.0551 | 1.20 | 1.40 |
| C | 0.0350 | 0.0440 | 0.89 | 1.11 |
| D | 0.0150 | 0.0200 | 0.37 | 0.50 |
| G | 0.0701 | 0.0807 | 1.78 | 2.04 |
| H | 0.0005 | 0.0040 | 0.013 | 0.100 |
| J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| K | 0.0140 | 0.0285 | 0.35 | 0.69 |
| L | 0.0350 | 0.0401 | 0.89 | 1.02 |
| S | 0.0830 | 0.1039 | 2.10 | 2.64 |
| V | 0.0177 | 0.0236 | 0.45 | 0.60 |

STYLE 11:

- PIN 1. ANODE
2. CATHODE
3. CATHODE-ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 (mm/inches)

SOT-23

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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