

BAV199LT1G, SBAV199LT1G, SBAV199LT3G



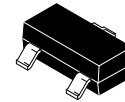
ON Semiconductor®

<http://onsemi.com>

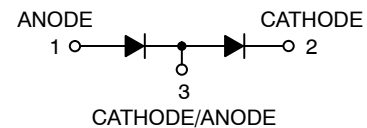
Dual Series Switching Diode

Features

- Low Leakage Current Applications
- Medium Speed Switching Times
- AEC-Q101 Qualified and PPAP Capable
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant*



CASE 318
SOT-23
STYLE 11



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

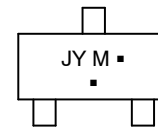
| Characteristic | Symbol | Max | Unit |
|---------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------|
| Total Device Dissipation FR-5 Board (Note 1), $T_A = 25^\circ C$ Derate above $25^\circ C$ | P_D | 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 | $^\circ C$ |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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.

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

MARKING DIAGRAM



JY = Specific Device Code
M = Date Code*
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

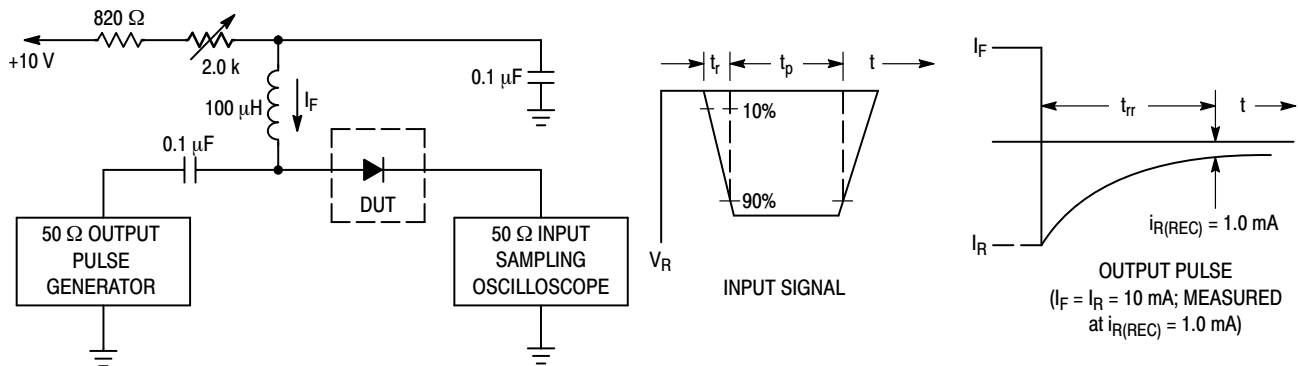
| Device | Package | Shipping† |
|-------------|---------------------|-------------------------|
| BAV199LT1G | SOT-23 (Pb-Free) | 3,000 / Tape & Reel |
| SBAV199LT1G | SOT-23 (Pb-Free) | 3,000 / Tape & Reel |
| SBAV199LT3G | SOT-23 (Pb-Free) | 10,000 / Tape & Reel |

†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.

BAV199LT1G, SBAV199LT1G, SBAV199LT3G

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 ($I_F = 1.0 \text{mA}$) ($I_F = 10 \text{mA}$) ($I_F = 50 \text{mA}$) ($I_F = 150 \text{mA}$) | V_F | - | 900 1000 1100 1250 | mVdc |
| Reverse Recovery Time ($I_F = I_R = 10 \text{mA}$) (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

TYPICAL CHARACTERISTICS

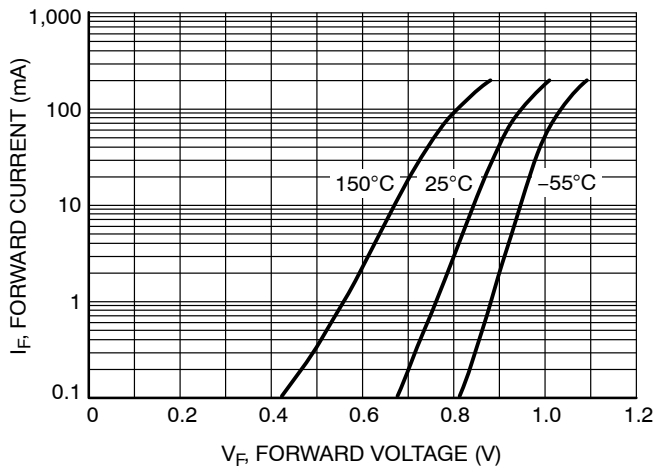


Figure 2. Forward Voltage

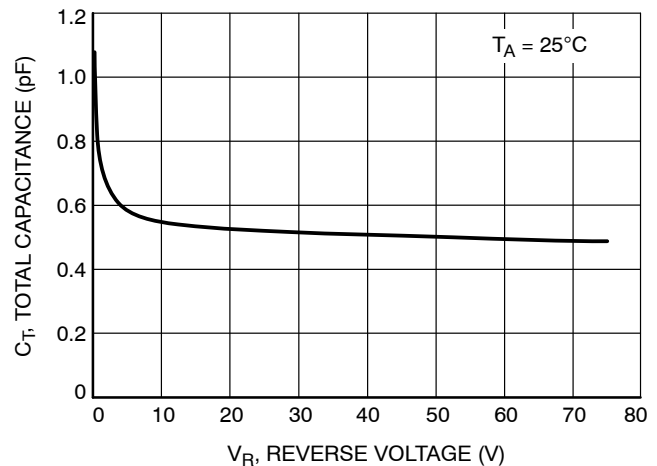
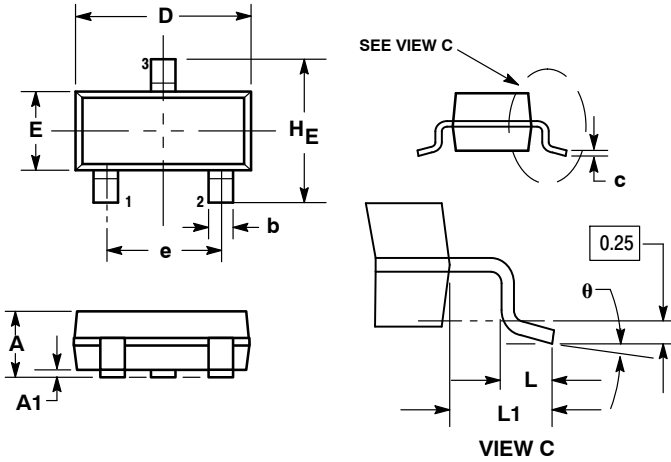


Figure 3. Capacitance

BAV199LT1G, SBAV199LT1G, SBAV199LT3G

PACKAGE DIMENSIONS

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



NOTES:

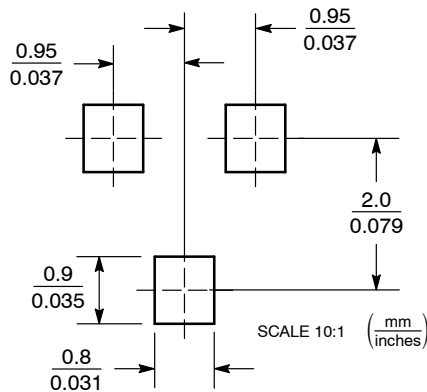
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.040 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.018 | 0.020 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.90 | 3.04 | 0.110 | 0.114 | 0.120 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.90 | 2.04 | 0.070 | 0.075 | 0.081 |
| L | 0.10 | 0.20 | 0.30 | 0.004 | 0.008 | 0.012 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |
| θ | 0° | --- | 10° | 0° | --- | 10° |

STYLE 11:

- PIN 1. ANODE
- CATHODE
- CATHODE-ANODE

SOLDERING FOOTPRINT



ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050

ON Semiconductor Website: www.onsemi.com
Order Literature: <http://www.onsemi.com/orderlit>
For additional information, please contact your local Sales Representative

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9