

# BAV99LT1

Preferred Device

## Dual Series Switching Diode

### Features

- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

### MAXIMUM RATINGS (Each Diode)

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	V
Average Rectified Forward Current (Note 1) (averaged over any 20 ms period)	$I_{F(AV)}$	715	mA
Repetitive Peak Forward Current	$I_{FRM}$	450	mA
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	A

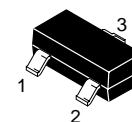
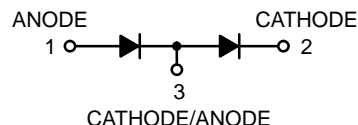
### THERMAL CHARACTERISTICS

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 Range	$T_J, T_{stg}$	-65 to +150	$^\circ C$



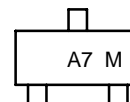
ON Semiconductor®

<http://onsemi.com>



CASE 318  
SOT-23  
Style 11

### MARKING DIAGRAM



A7 = Device Code  
M = Date Code

### ORDERING INFORMATION

Device	Package	Shipping†
BAV99LT1	SOT-23	3000/Tape & Reel
BAV99LT3G	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.

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## OFF CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage ( $I_{(BR)} = 100\ \mu\text{A}$ )	$V_{(BR)}$	70	–	Vdc
Reverse Voltage Leakage Current ( $V_R = 70\ \text{Vdc}$ ) ( $V_R = 25\ \text{Vdc}$ , $T_J = 150^\circ\text{C}$ ) ( $V_R = 70\ \text{Vdc}$ , $T_J = 150^\circ\text{C}$ )	$I_R$	– – –	2.5 30 50	$\mu\text{Adc}$
Diode Capacitance ( $V_R = 0$ , $f = 1.0\ \text{MHz}$ )	$C_D$	–	1.5	pF
Forward Voltage ( $I_F = 1.0\ \text{mAdc}$ ) ( $I_F = 10\ \text{mAdc}$ ) ( $I_F = 50\ \text{mAdc}$ ) ( $I_F = 150\ \text{mAdc}$ )	$V_F$	– – – –	715 855 1000 1250	mVdc
Reverse Recovery Time ( $I_F = I_R = 10\ \text{mAdc}$ , $i_{R(REC)} = 1.0\ \text{mAdc}$ ) (Figure 4) $R_L = 100\ \Omega$	$t_{rr}$	–	6.0	ns
Forward Recovery Voltage ( $I_F = 10\ \text{mA}$ , $t_r = 20\ \text{ns}$ )	$V_{FR}$	–	1.75	V

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

# BAV99LT1

## CURVES APPLICABLE TO EACH DIODE

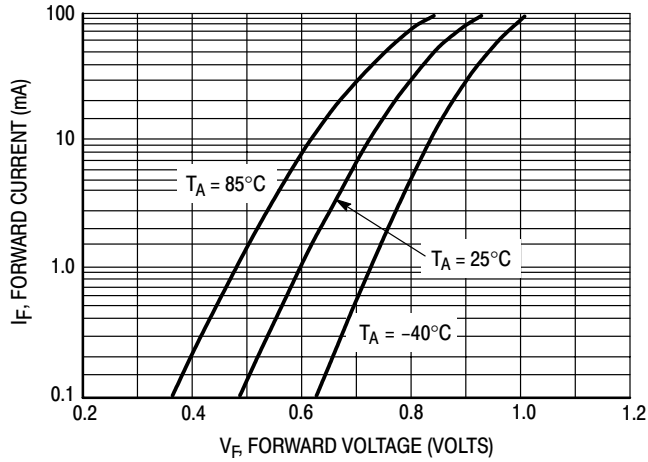


Figure 1. Forward Voltage

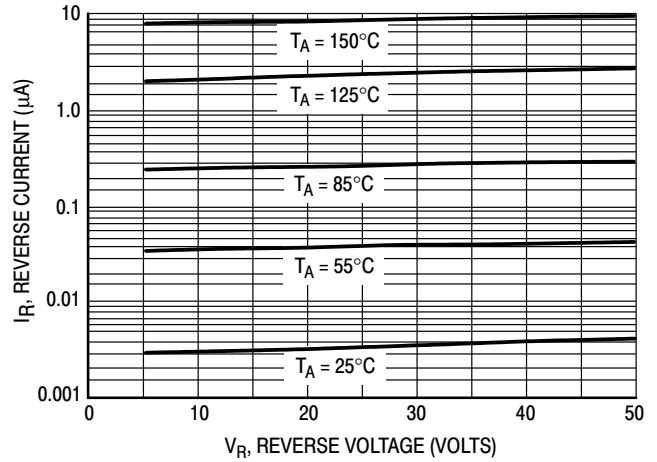


Figure 2. Leakage Current

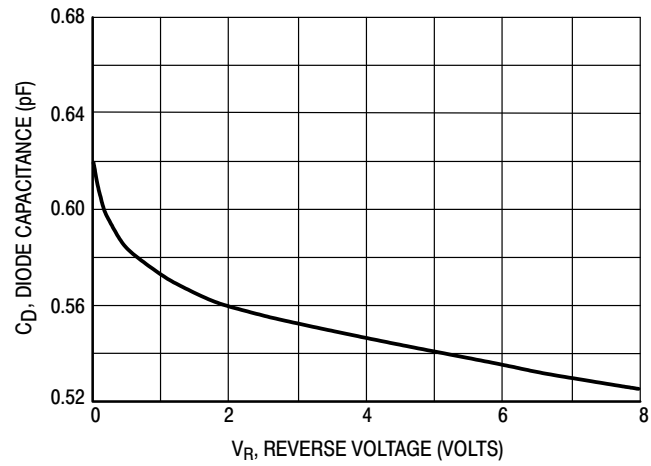
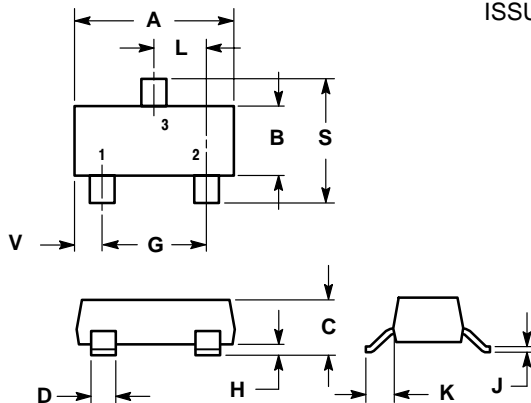


Figure 3. Capacitance

# BAV99LT1

## PACKAGE DIMENSIONS

### SOT-23 (TO-236AB) PLASTIC PACKAGE CASE 318-09 ISSUE AF



#### 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. 318-01, -02, AND -06 OBSOLETE, NEW STANDARD 318-09.

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	0.0385	0.0498	0.99	1.26
D	0.0140	0.0200	0.36	0.50
G	0.0670	0.0826	1.70	2.10
H	0.0040	0.0098	0.10	0.25
J	0.0034	0.0070	0.085	0.177
K	0.0180	0.0236	0.45	0.60
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.0984	2.10	2.50
V	0.0177	0.0236	0.45	0.60

#### STYLE 11:

- PIN 1. ANODE
- CATHODE
- CATHODE-ANODE

### SOLDERING FOOTPRINT\*

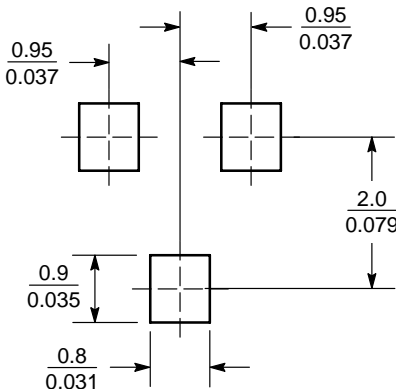



Figure 4. SOT-23

\*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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