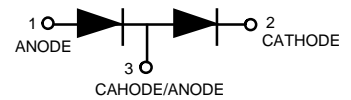
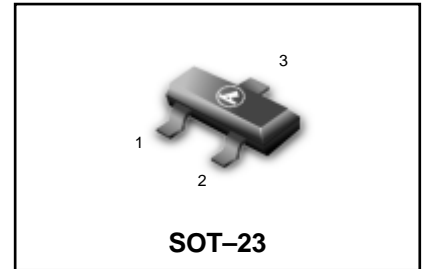


# Dual Series Switching Diode

- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

**LBAV99LT1G**  
**S-LBAV99LT1G**



## DEVICE MARKING ORDERING INFORMATION

Device	Marking	Shipping
LBAV99LT1G S-LBAV99LT1G	A7	3000 Tape & Reel
LBAV99LT3G S-LBAV99LT3G	A7	10000 Tape & Reel

## 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 (1) (averaged over any 20 ms period)	$I_{F(AV)}$	715	mA
Repetitive Peak Forward Current	$I_{FRM}$	450	mA
Non-Repertitive Peak Forward Current	$I_{FSM}$		A
$t = 1.0 \mu s$		2.0	
$t = 1.0 ms$		1.0	
$t = 1.0 S$		0.5	

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (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, (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 x 0.75 x 0.062 in.

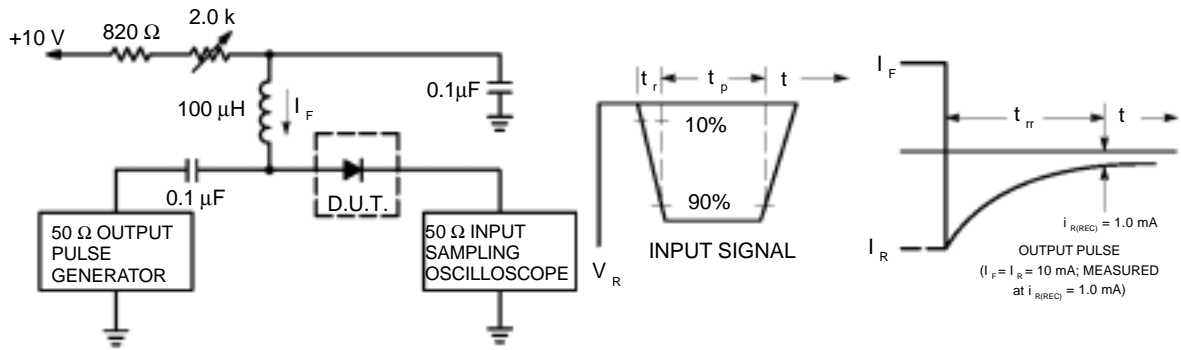
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{A}$ )	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 70 \text{Vdc}$ )	$I_R$	—	2.5	$\mu\text{Adc}$
( $V_R = 25 \text{Vdc}$ , $T_J = 150^\circ\text{C}$ )		—	30	
( $V_R = 70 \text{Vdc}$ , $T_J = 150^\circ\text{C}$ )		—	50	
Diode Capacitance ( $V_R = 0$ , $f = 1.0 \text{MHz}$ )	$C_D$	—	1.5	pF
Forward Voltage ( $I_F = 1.0 \text{mAdc}$ )	$V_F$	—	715	mVdc
( $I_F = 10 \text{mAdc}$ )		—	855	
( $I_F = 50 \text{mAdc}$ )		—	1000	
( $I_F = 150 \text{mAdc}$ )		—	1250	
Reverse Recovery Time ( $I_F = I_R = 10 \text{mAdc}$ , $i_{R(REC)} = 1.0 \text{mAdc}$ , $R_L = 100\Omega$ ) (Figure 1)	$t_{rr}$	—	6.0	ns
Forward Recovery Voltage ( $I_F = 10 \text{mA}$ , $t_r = 20 \text{ns}$ )	$V_{FR}$	—	1.75	V

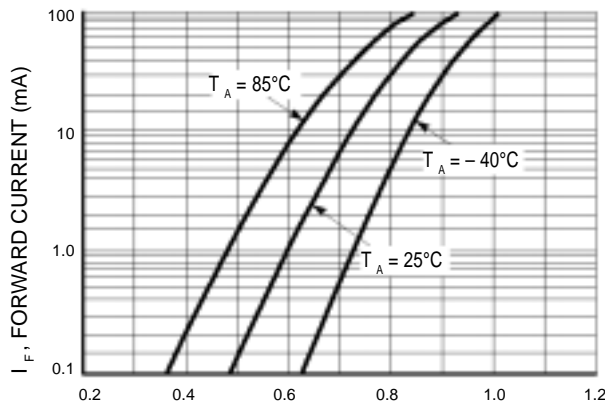
**LBAV99LT1G , S-LBAV99LT1G**



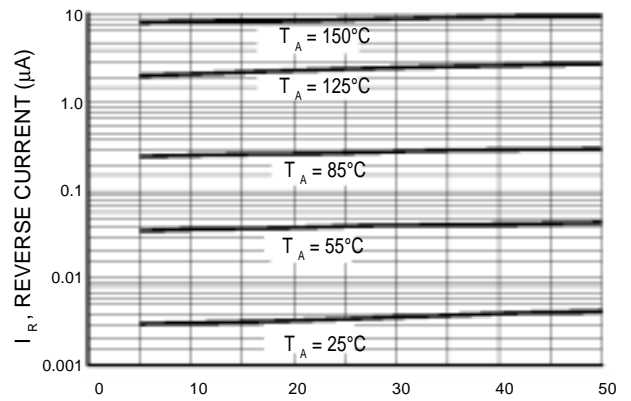
- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.
- 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10mA.
- 3.  $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**

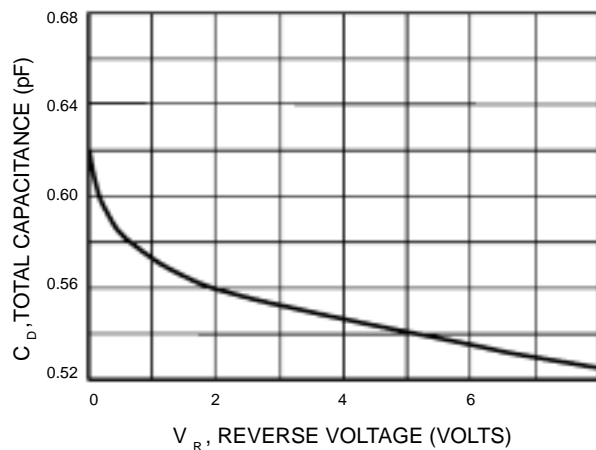
**CURVES APPLICABLE TO EACH DIODE**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**

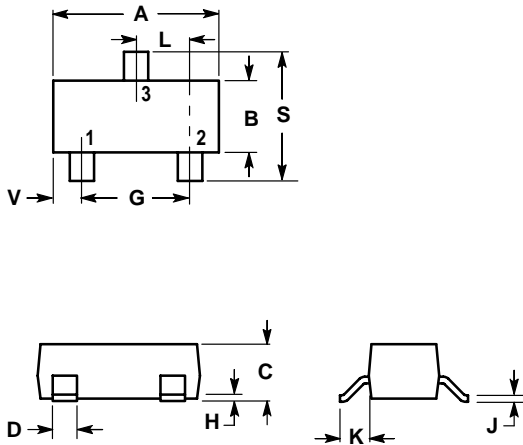


**Figure 4. Capacitance**

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**SOT-23**

Dimension Outline:



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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

Soldering Footprint:

- PIN 1. ANODE
2. CAHODE
3. CAHODE/ANODE

