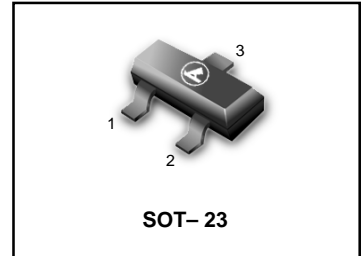


# High Voltage Switching Diode

**LBAS21LT1G**  
**S-LBAS21LT1G**

## FEATURE

- 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.



## DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBAS21LT1G S-LBAS21LT1G	JS	3000/Tape&Reel
LBAS21LT3G S-LBAS21LT3G	JS	10000/Tape&Reel



## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	250	Vdc
Peak Forward Current	$I_F$	225	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	625	mAdc

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A = 25^\circ\text{C}$	$P_D$	225	mW
Derate above $25^\circ\text{C}$		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	$P_D$	300	mW
Derate above $25^\circ\text{C}$		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Max	Unit
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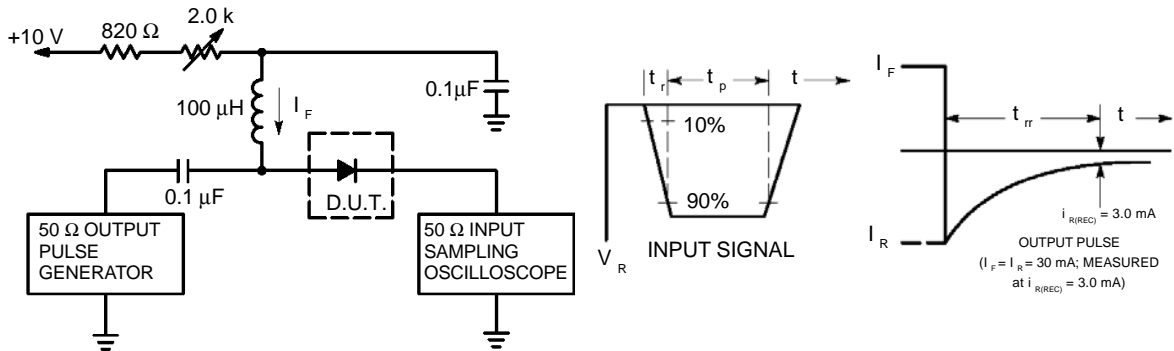
## OFF CHARACTERISTICS

Reverse Voltage Leakage Current ( $V_R = 200\text{Vdc}$ ) ( $V_R = 200\text{Vdc}, T_J = 150^\circ\text{C}$ )	$I_R$	—	0.1 100	$\mu\text{Adc}$
Reverse Breakdown Voltage ( $I_{BR} = 100\ \mu\text{Adc}$ )	$V_{(BR)}$	250	—	Vdc
Forward Voltage ( $I_F = 100\ \text{mAdc}$ ) ( $I_F = 200\ \text{mAdc}$ )	$V_F$	—	1000 1250	mV
Diode Capacitance ( $V_R = 0, f = 1.0\ \text{MHz}$ )	$C_D$	—	5.0	pF
Reverse Recovery Time ( $I_F = I_R = 30\text{mAdc}, R_L = 100\ \Omega$ )	$t_{rr}$	—	50	ns

1. FR-5 =  $1.0 \times 0.75 \times 0.062\ \text{in.}$

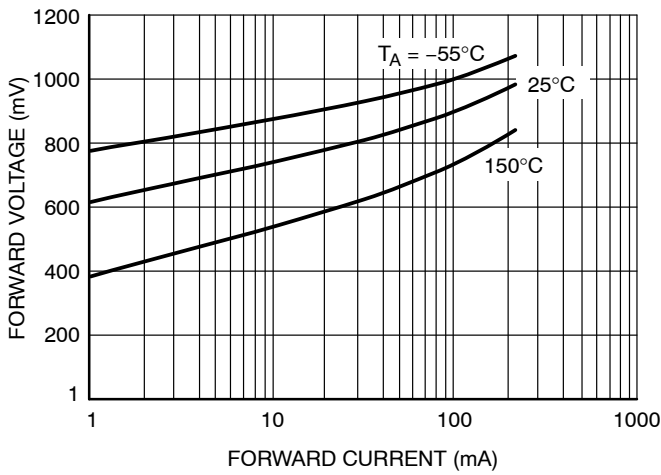
2. Alumina =  $0.4 \times 0.3 \times 0.024\ \text{in.}$  99.5% alumina.

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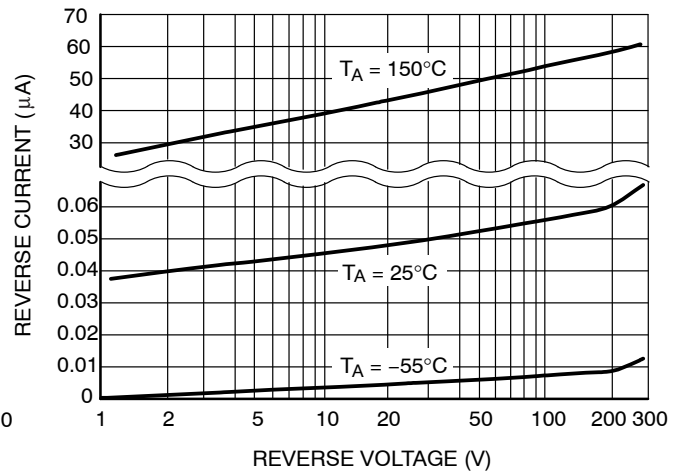


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 30 mA.
- 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 30 mA.
- 3.  $t_p \gg t_{rr}$

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



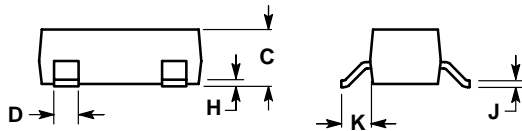
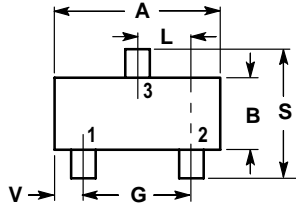
**Figure 2. Forward Voltage**



**Figure 3. Reverse Leakage**

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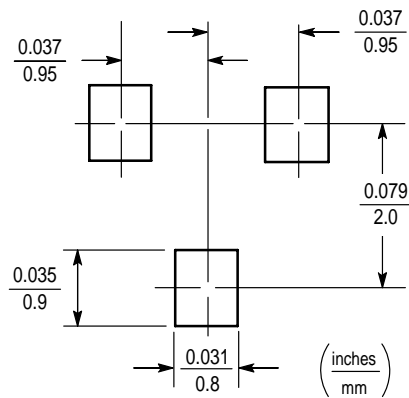
**SOT-23**



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



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