Surface Mount Low Leakge Diode

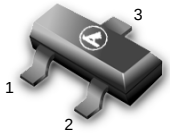
LBAS116LT1G
S-LBAS116LT1G
LBAW156LT1G
S-LBAW156LT1G
LBAV170LT1G
S-LBAV170LT1G
LBAV199LT1G
S-LBAV199LT1G

FEATURE

- Ultra-Small Surface Mount Package
- Very Low Leakage Current
- **Lead Free/RoHS Compliant (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- We declare that the material of product compliance with RoHS reuirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

MECHANICAL DATA

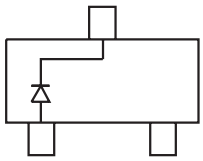
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Weight: 0.002 grams (approx.)



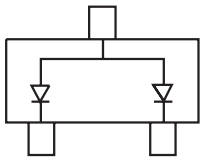
SOT–23

DEVICE MARKING ORDERING INFORMATION

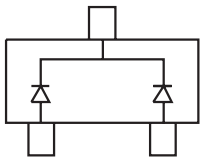
Device	Marking	Shipping
LBAS116LT1G S-LBAS116LT1G	K50	3000 Tape & Reel
LBAS116LT3G S-LBAS116LT3G	K50	10000 Tape & Reel
LBAW156LT1G S-LBAW156LT1G	53	3000 Tape & Reel
LBAW156LT3G S-LBAW156LT3G	53	10000 Tape & Reel
LBAV170LT1G S-LBAV170LT1G	51	3000 Tape & Reel
LBAV170LT3G S-LBAV170LT3G	51	10000 Tape & Reel
LBAV199LT1G S-LBAV199LT1G	52	3000 Tape & Reel
LBAV199LT3G S-LBAV199LT3G	52	10000 Tape & Reel



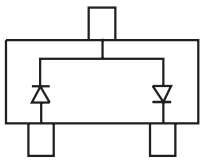
LBAS116LT1G



LBAW156LT1G



LBAV170LT1G



LBAV199LT1G

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_R	85	V
RMS Reverse Voltage		$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 1)	Single Diode Double Diode	I_{FM}	215 125	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I_{FSM}	4.0 1.0 0.5	A
Power Dissipation (Note 1)		P_d	150	mW
Thermal Resistance Junction to Ambient Air (Note 1)		$R_{\theta JA}$	833	°C/W
Operating and Storage Temperature Range		T_j , T_{STG}	-65 to +150	°C

Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. No purposefully added lead.

LBAS116LT1G,S-LBAS116LT1G, LBAV170LT1G,S-LBAV170LT1G, LBAW156LT1G,S-LBAW156LT1G, LBAV199LT1G,S-LBAV199LT1G

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	85	—	—	V	I_R = 100μA
Forward Voltage	V_F	—	—	0.90 1.0 1.1 1.25	V	I_F = 1.0mA I_F = 10mA I_F = 50mA I_F = 150mA
Leakage Current (Note 3)	I_R	—	—	5.0 80	nA nA	V_R = 75V V_R = 75V, T_j = 150°C
Total Capacitance	C_T	—	2	—	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 3. Short duration test pulse used to minimize self-heating effect.

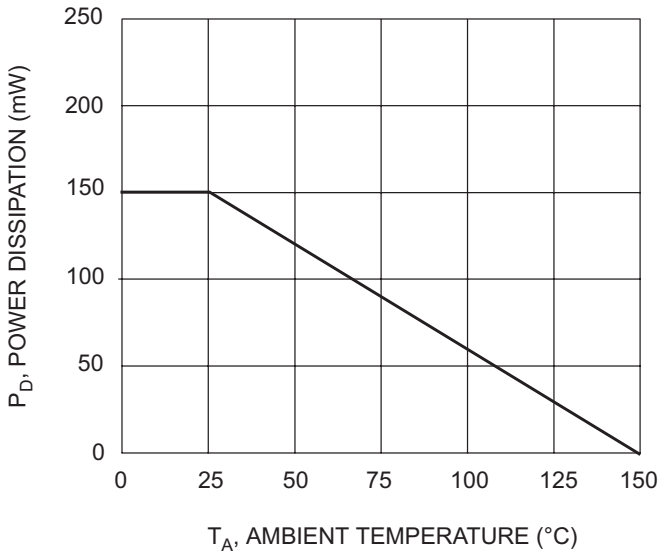


Fig. 1 Power Derating Curve

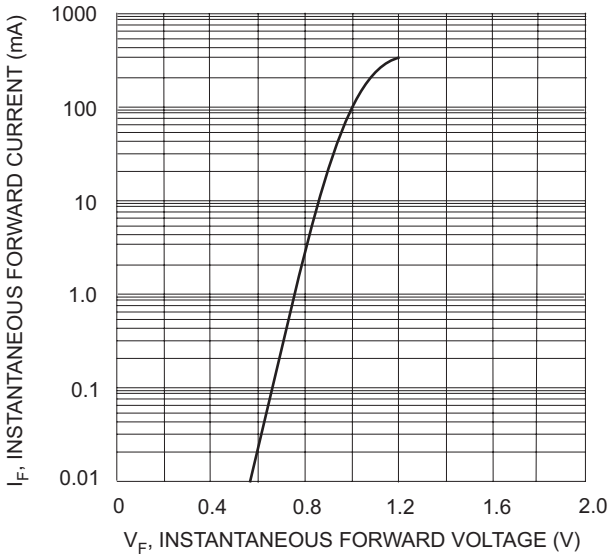


Fig. 2 Typical Forward Characteristics

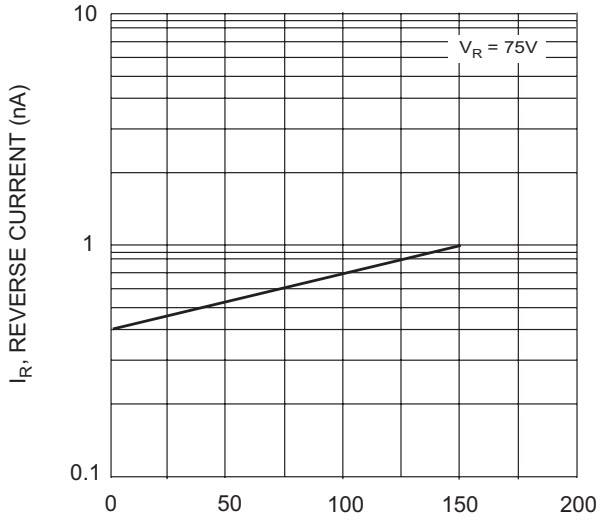


Fig. 3 Typical Reverse Characteristics

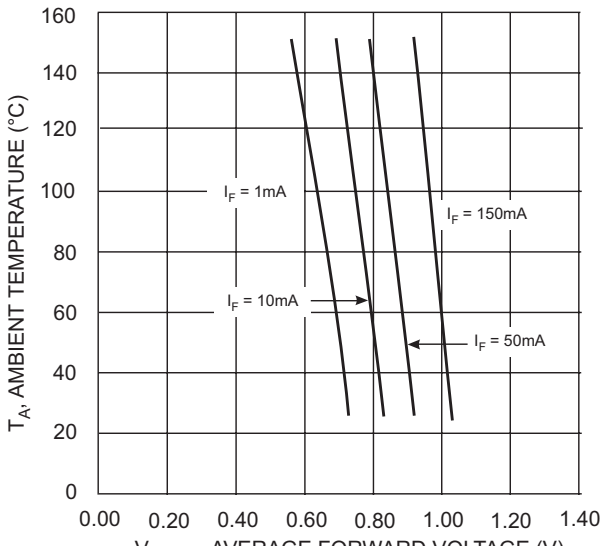
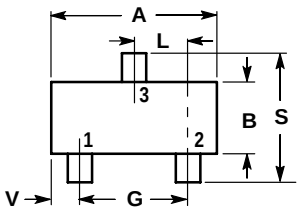
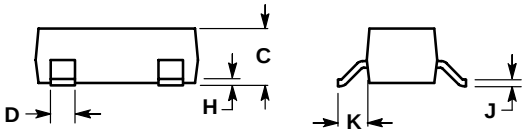


Fig. 4 Typical Forward Voltage vs Ambient Temperature

LBAS116LT1G,S-LBAS116LT1G, LBAV170LT1G,S-LBAV170LT1G, LBAW156LT1G,S-LBAW156LT1G, LBAV199LT1G,S-LBAV199LT1G

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

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