

Monolithic Dual Switching Diodes

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.

ORDERING INFORMATION

Device	Marking	Shipping
LMBD2837LT1G	A5	3000/Tape&Reel
LMBD2837LT3G	A5	10000/Tape&Reel
LMBD2838LT1G	MA6	3000/Tape&Reel
LMBD2838LT3G	MA6	10000/Tape&Reel

MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	75	Vdc
D.C Reverse Voltage	LMBD2837LT1G V_R LMBD2838LT1G	30 50	Vdc
Peak Forward Current	I_{FM}	450 300	mAdc
Average Rectified Current	I_O	150 100	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°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$	P_D	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	°C

DEVICE MARKING

LMBD2837LT1G = A5; LMBD2838LT1G = MA6

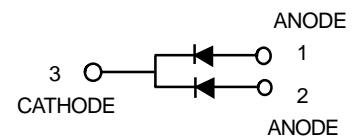
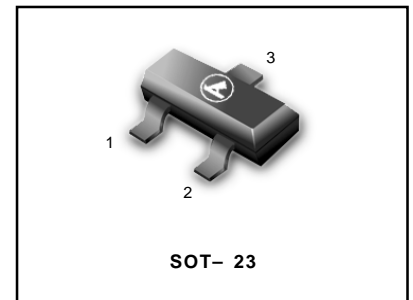
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage($I_{(BR)} = 100\mu\text{Adc}$)	LMBD2837LT1G $V_{(BR)}$ LMBD2838LT1G	35 75	—	Vdc
Reverse Voltage Leakage Current ($V_R = 30\text{ Vdc}$) ($V_R = 50\text{ Vdc}$)	I_R LMBD2837LT1G LMBD2838LT1G	— —	0.1 0.1	μAdc
Diode Capacitance ($V_R = 0\text{ V}$, $f = 1.0\text{ MHz}$)	C_T	—	4.0	pF
Forward Voltage($I_F = 10\text{ mAdc}$) ($I_F = 50\text{ mAdc}$) ($I_F = 100\text{ mAdc}$)	V_F	— — —	1.0 1.0 1.2	Vdc
Reverse Recovery Time($I_F = I_R = 10\text{ mAdc}$, $I_{R(REC)} = 1.0\text{ mAdc}$)(Figure 1) t_{rr}		—	4.0	ns

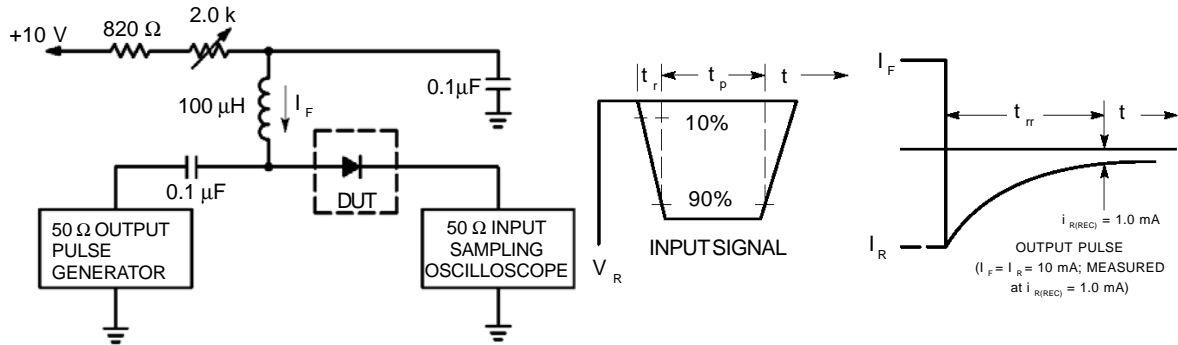
1. FR-5 = 1.0 x 0.75 x 0.062 in.

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

LMBD2837LT1G
S-LMBD2837LT1G
LMBD2838LT1G
S-LMBD2838LT1G



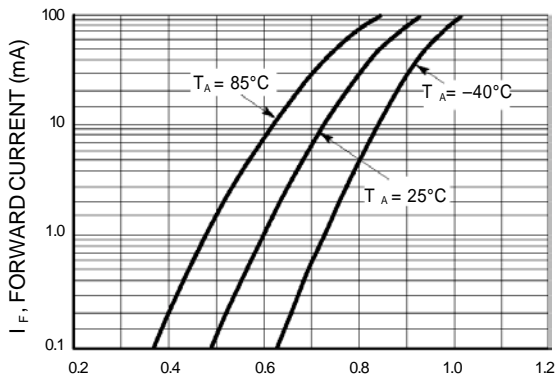
LMBD2837LT1G,S-LMBD2837LT1G,LMBD2838LT1G,S-LMBD2838LT1G



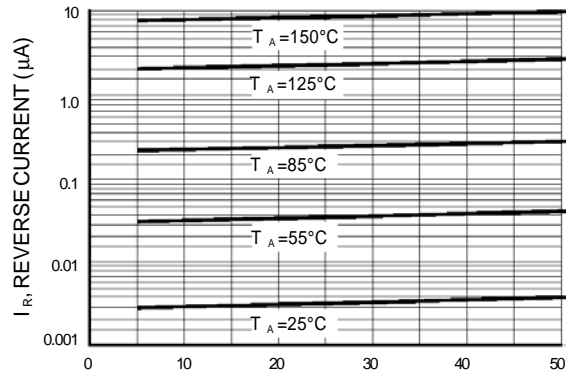
- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.
- 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
- 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

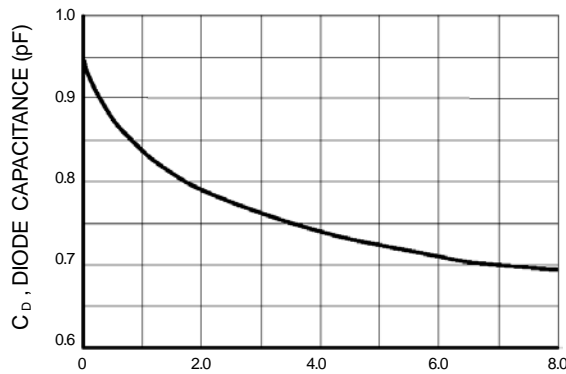
CURVES APPLICABLE TO EACH CATHODE



V_F , FORWARD VOLTAGE (VOLTS)
Figure 2. Forward Voltage



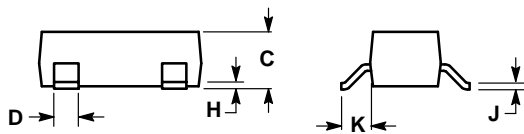
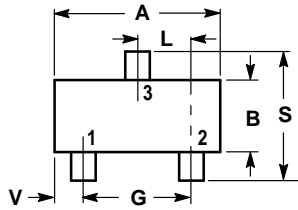
V_R , REVERSE VOLTAGE (VOLTS)
Figure 3. Leakage Current



V_R , REVERSE VOLTAGE (VOLTS)
Figure 4. Capacitance

LMBD2837LT1G,S-LMBD2837LT1G,LMBD2838LT1G,S-LMBD2838LT1G

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. NO CONNECTION
 3. CATHODE

