

Monolithic Dual Switching Diodes

FETURE

- Pb-Free Package is available.

ORDERING INFORMATION

Device	Marking	Shipping
LMBD2837LT1	A5	3000/Tape&Reel
LMBD2837LT1G	A5(Pb-Free)	3000/Tape&Reel
LMBD2838LT1	MA6	3000/Tape&Reel
LMBD2838LT1G	MA6(Pb-Free)	3000/Tape&Reel

MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Peak Reverse Voltage	V_{RM}	75	Vdc
D.C Reverse Voltage	V_R	30	Vdc
		50	
Peak Forward Current	I_{FM}	450	mAdc
		300	
Average Rectified Current	I_O	150	mAdc
		100	

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

DEVICE MARKING

LMBD2837LT1 = A5; LMBD2838LT1 = MA6

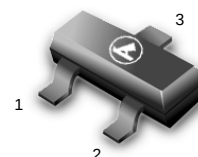
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (EACH DIODE)

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

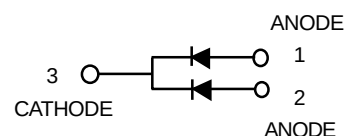
1. FR-5 = $1.0 \times 0.75 \times 0.062\text{ in.}$

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

LMBD2837LT1
LMBD2838LT1



SOT- 23 (TO-236AB)

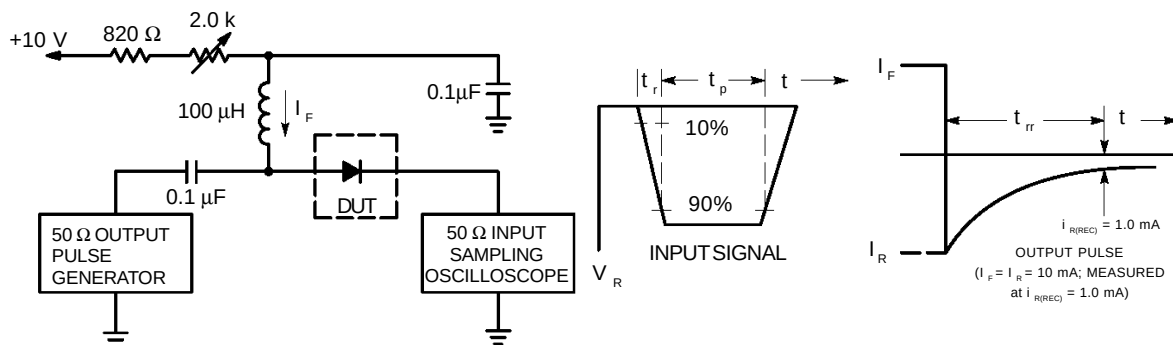


ANODE

3 CATHODE

ANODE

LMBD2837LT1 LMBD2838LT1



- 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 CATHODE

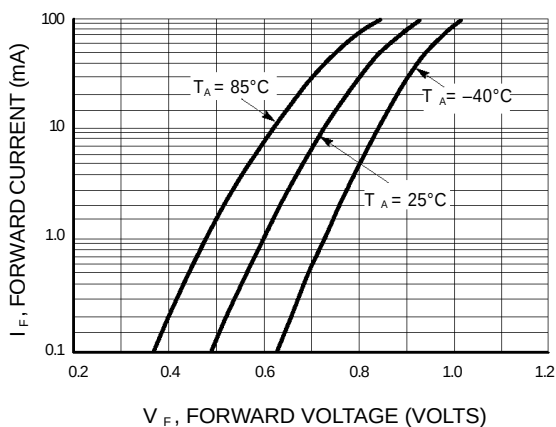


Figure 2. Forward Voltage

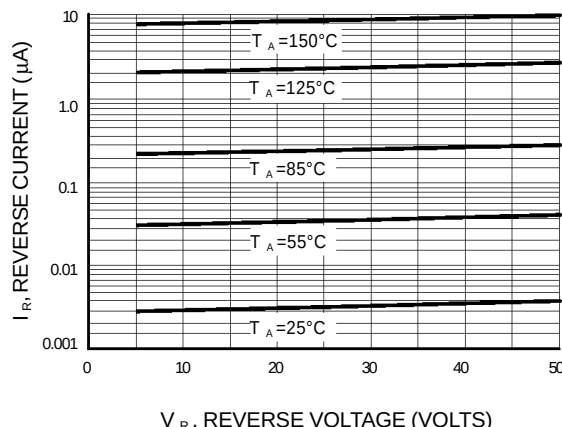


Figure 3. Leakage Current

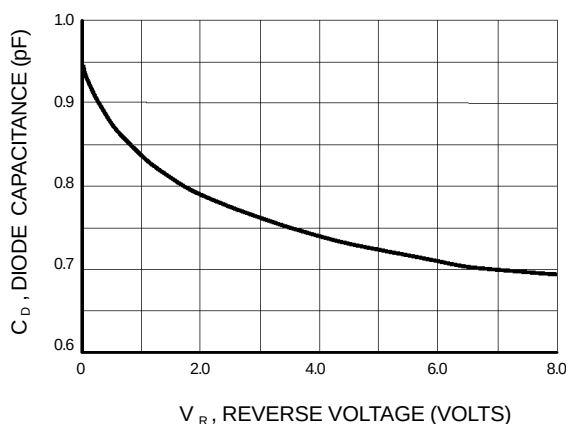
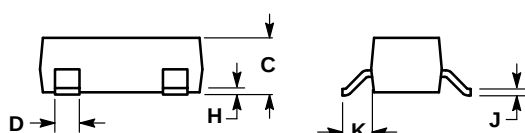
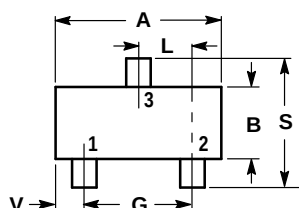


Figure 4. Capacitance

LMBD2837LT1 LMBD2838LT1

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

