Monolithic Dual Switching Diodes

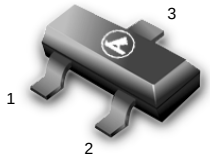
LMBD2837LT1
LMBD2838LT1

FETURE

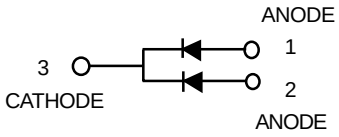
- Pb-Free Package is available.

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



SOT– 23 (TO–236AB)



MAXIMUM RATINGS(EACH DIODE)

Rating		Symbol	Value	Unit
Peak Reverse Voltage		V_{RM}	75	Vdc
D.C Reverse Voltage	LMBD2837LT1	V_R	30	Vdc
	LMBD2838LT1		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°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°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

LMBD2837LT1 = A5; LMBD2838LT1 = MA6

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Reverse Breakdown Voltage($I_{(BR)}$ = 100µAdc)	LMBD2837LT1	$V_{(BR)}$	35	—	Vdc
	LMBD2838LT1		75	—	
Reverse Voltage Leakage Current		I_R	—		µAdc
(V_R = 30 Vdc)	LMBD2837LT1		—	0.1	
(V_R = 50 Vdc)	LMBD2838LT1			0.1	
Diode Capacitance (V_R = 0 V, f = 1.0 MHz)		C_T	—	4.0	pF
Forward Voltage(I_F = 10 mAdc)		V_F	—	1.0	Vdc
(I_F = 50 mAdc)			—	1.0	
(I_F = 100 mAdc)			—	1.2	
Reverse Recovery Time(I_F=I_R=10mAdc,$I_{R(REC)}$=1.0mAdc)(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.

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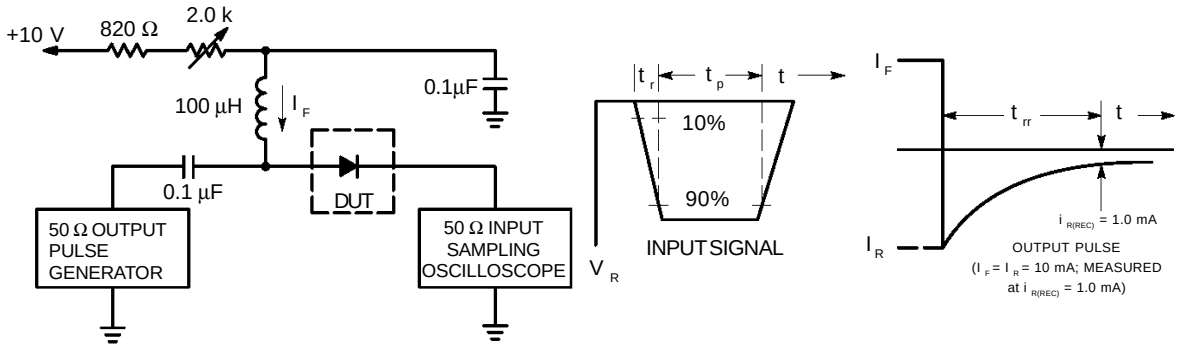
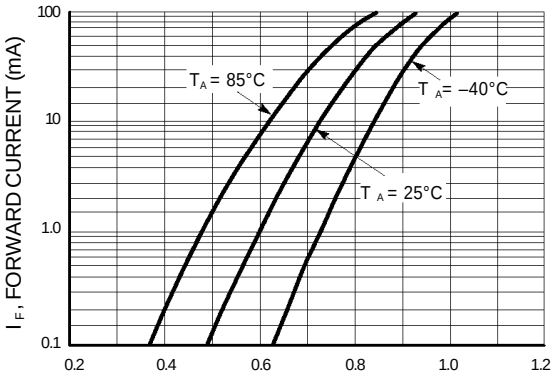


Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

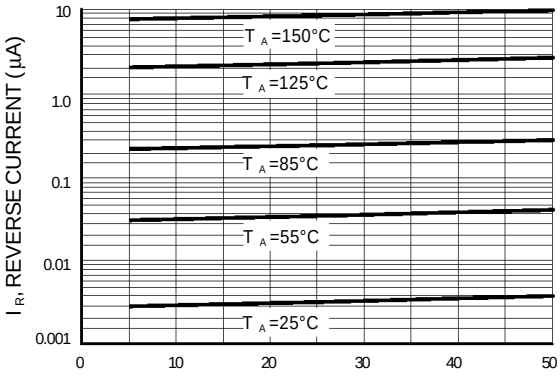
Figure 1. Recovery Time Equivalent Test Circuit

CURVES APPLICABLE TO EACH CATHODE



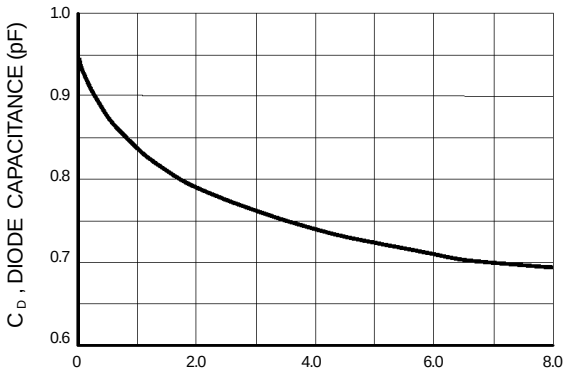
V_F, FORWARD VOLTAGE (VOLTS)

Figure 2. Forward Voltage



V_R, REVERSE VOLTAGE (VOLTS)

Figure 3. Leakage Current



V_R, REVERSE VOLTAGE (VOLTS)

Figure 4. Capacitance

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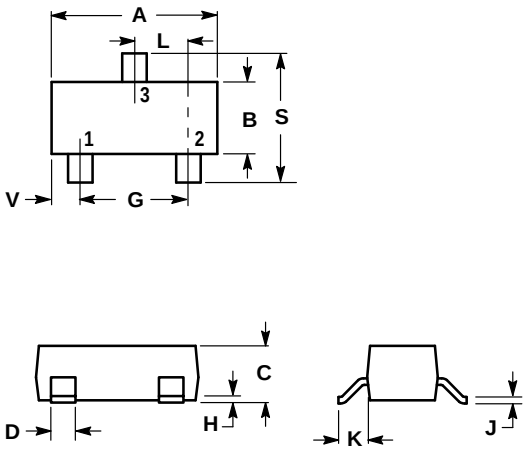

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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