

# Dual Switching Diode

- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

## ORDERING INFORMATION

Device	Package	Shipping
LMBD7000LT1	SOT-23	3000/Tape & Reel
LMBD7000LT1G	SOT-23	3000/Tape & Reel

## MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	100	Vdc
Forward Current	$I_F$	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board <sup>(1)</sup> $T_A = 25^\circ\text{C}$	$P_D$	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, <sup>(2)</sup> $T_A = 25^\circ\text{C}$	$P_D$	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

## DEVICEMARKING

LMBD7000LT1 = M5C

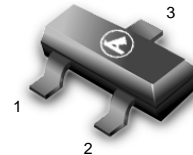
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)(EACH DIODE)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	100	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 50 \text{ Vdc}$ )	$I_R$	—	1.0	$\mu\text{Adc}$
( $V_R = 100 \text{ Vdc}$ )	$I_{R2}$	—	3.0	
( $V_R = 50 \text{ Vdc}, 125^\circ\text{C}$ )	$I_{R3}$	—	100	
Forward Voltage ( $I_F = 1.0 \text{ mAdc}$ )	$V_F$	0.55	0.7	Vdc
( $I_F = 10 \text{ mAdc}$ )		0.67	0.82	
( $I_F = 100 \text{ mAdc}$ )		0.75	1.1	
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mAdc}$ ) (Figure 1)	$t_{rr}$	—	4.0	ns
Capacitance( $V_R=0\text{V}$ )	C	—	1.5	pF

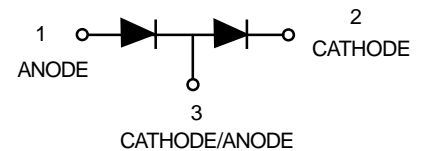
1. FR-5 = 1.0 x 0.75 x 0.062 in.

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

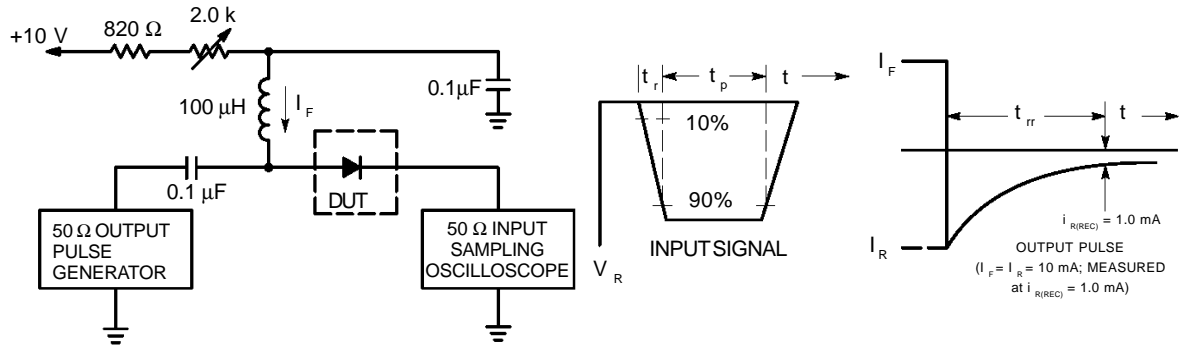
## LMBD7000LT1



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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  $I_{R(\text{peak})}$  is equal to 10mA.
- 3.  $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

CURVES APPLICABLE TO EACH CATHODE

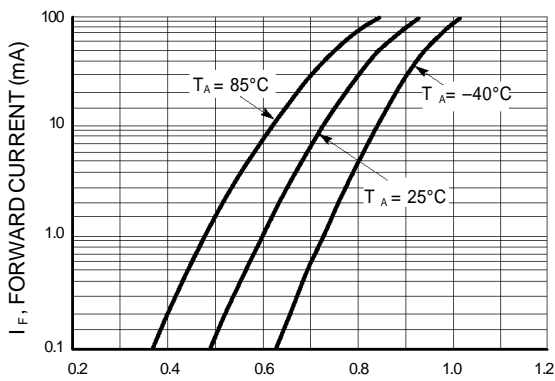


Figure 2. Forward Voltage

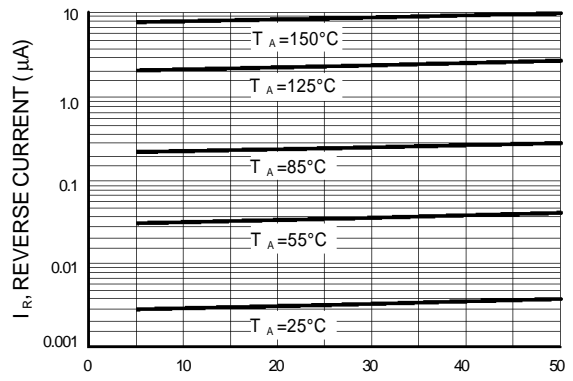


Figure 3. Leakage Current

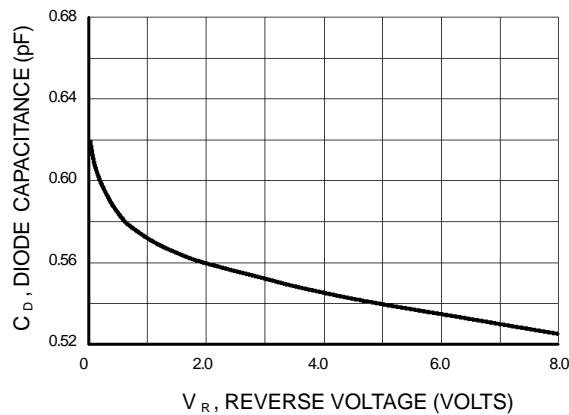
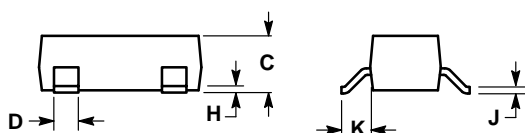
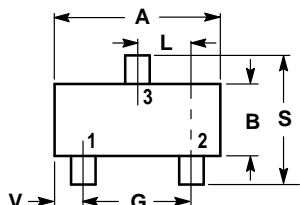


Figure 4. Capacitance



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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. CATHODE  
 3. CATHODE/ANODE

