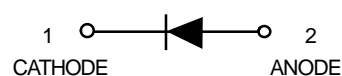
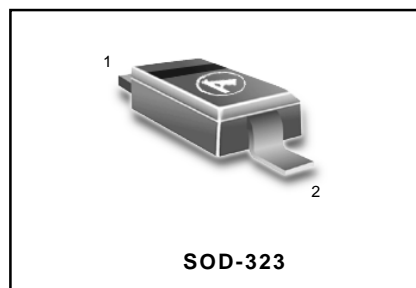


# Switching Diode

**LMDL6050T1G**  
**S-LMDL6050T1G**

## 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
LMDL6050T1G S-LMDL6050T1G	5A	3000/Tape&Reel
LMDL6050T3G S-LMDL6050T3G	5A	10000/Tape&Reel

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	70	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,* $T_A = 25^\circ\text{C}$	$P_D$	200	mW
Derate above $25^\circ\text{C}$		1.57	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	150	$^\circ\text{C}$

\*\*FR-4 Minimum Pad

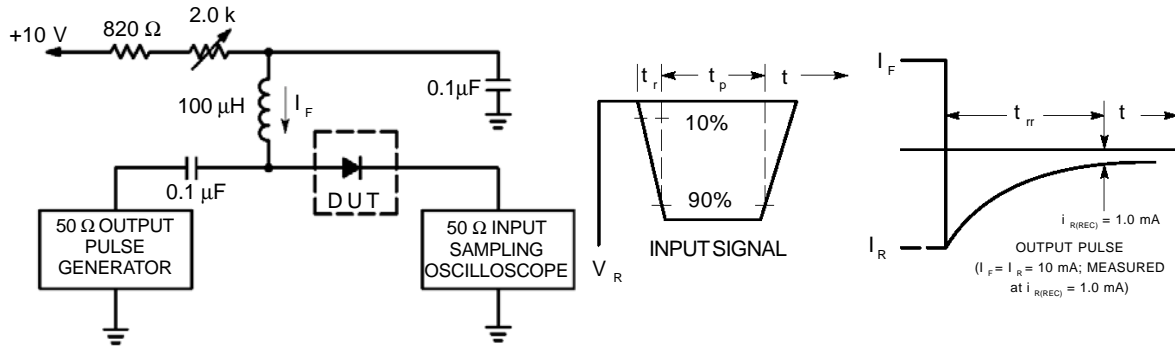
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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## OFF CHARACTERISTICS

Reverse Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 50 \text{Vdc}$ )	$I_R$	—	0.1	$\mu\text{Adc}$
Forward Voltage ( $I_F = 1.0 \text{mAdc}$ )	$V_F$	0.55	0.7	Vdc
( $I_F = 100 \text{mAdc}$ )		0.85	1.1	
Reverse Recovery Time ( $I_F = I_R = 10 \text{mAdc}, I_{R(REC)} = 1.0 \text{mAdc}$ ) (Figure 1)	$t_{rr}$	—	4.0	ns
Capacitance ( $V_R = 0 \text{V}$ )	$C$	—	2.5	pF

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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

TYPICAL CHARACTERISTICS

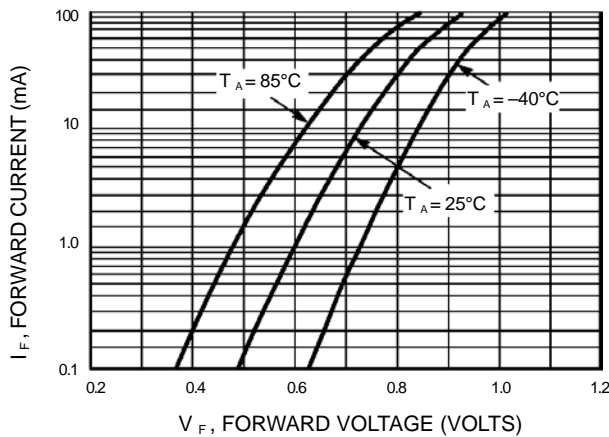


Figure 2. Forward Voltage

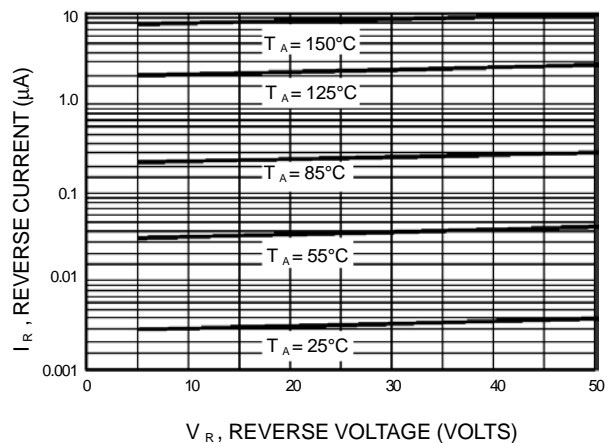


Figure 3. Leakage Current

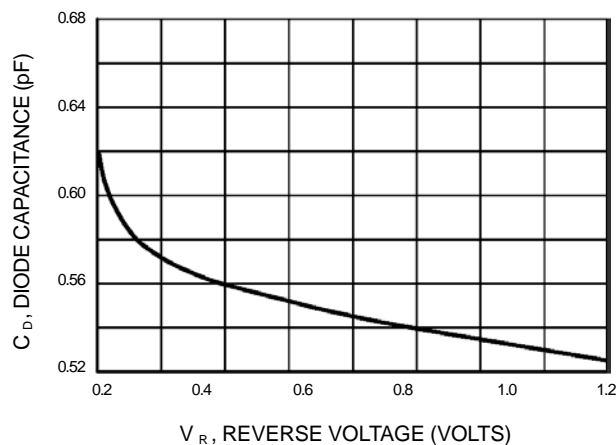
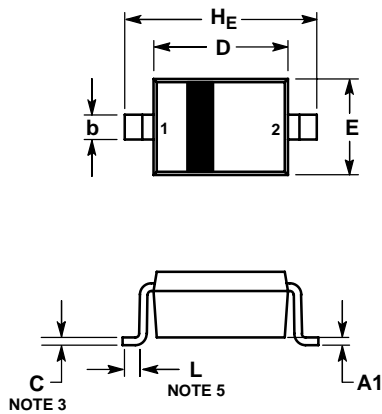


Figure 4. Capacitance

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SOD-323



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H <sub>E</sub>	2.30	2.50	2.70	0.090	0.098	0.105

SOLDERING FOOTPRINT\*

