

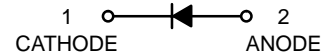
# MMDL6050T1

## Switching Diode



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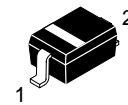
### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	70	Vdc
Peak 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 (Note 1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200 1.57	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$

1. FR-4 Minimum Pad.



SOD-323  
CASE 477  
STYLE 1

### MARKING DIAGRAM



5A = Specific Device Code  
M = Date Code

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

Characteristic	Symbol	Min	Max	Unit
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### OFF CHARACTERISTICS

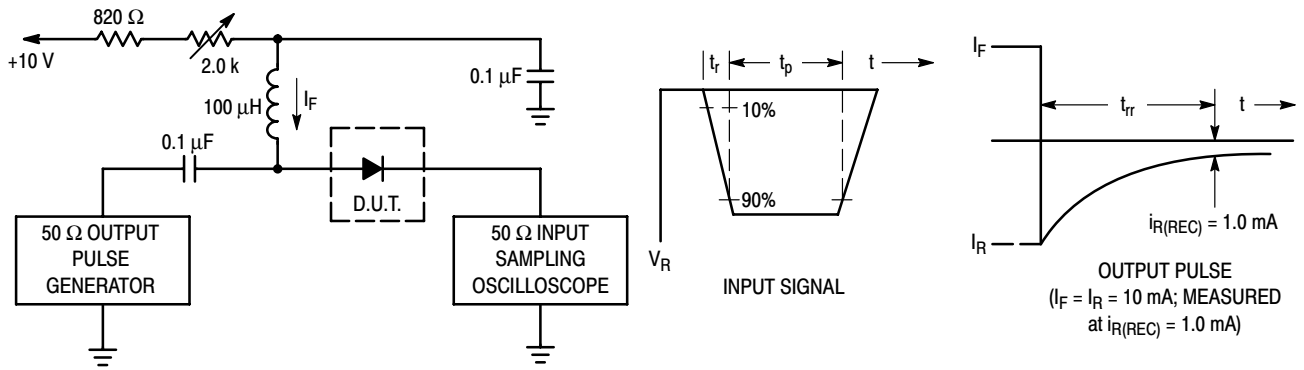
Reverse Breakdown Voltage ( $I_{BR} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	70	-	Vdc
Reverse Voltage Leakage Current ( $V_R = 50 \text{Vdc}$ )	$I_R$	-	0.1	$\mu\text{Adc}$
Forward Voltage ( $I_F = 1.0 \text{mAdc}$ ) ( $I_F = 100 \text{mAdc}$ )	$V_F$	0.55 0.85	0.7 1.1	Vdc
Reverse Recovery Time ( $I_F = I_R =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

### ORDERING INFORMATION

Device	Package	Shipping†
MMDL6050T1	SOD-323	3000/Tape & Reel

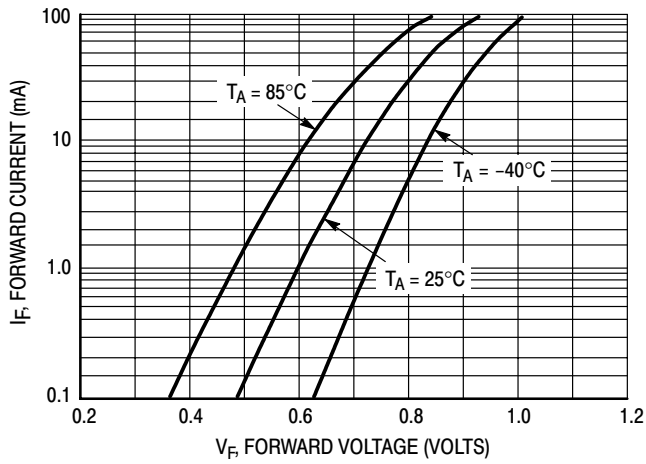
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

# MMDL6050T1

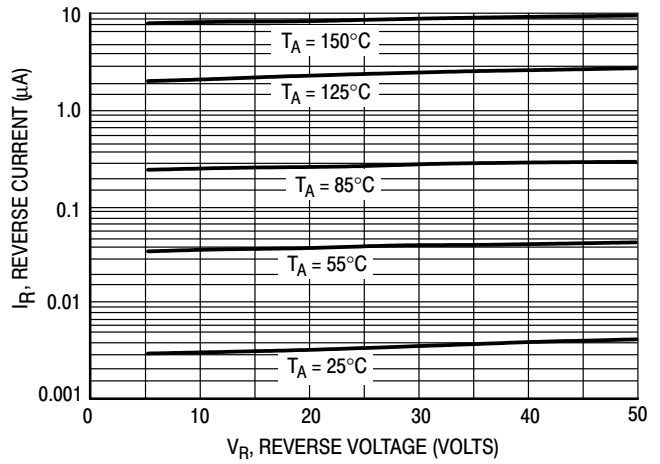


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

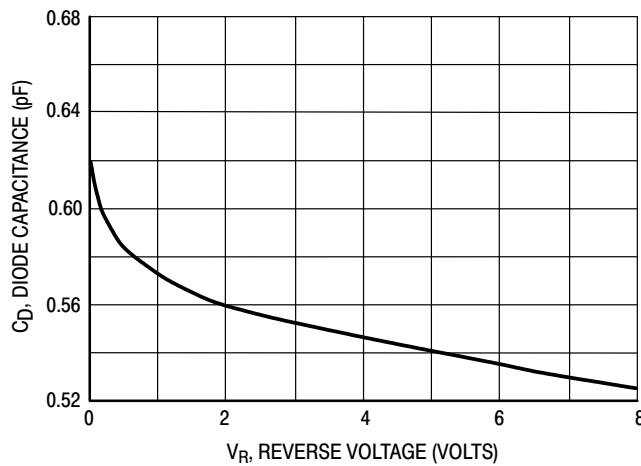
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**

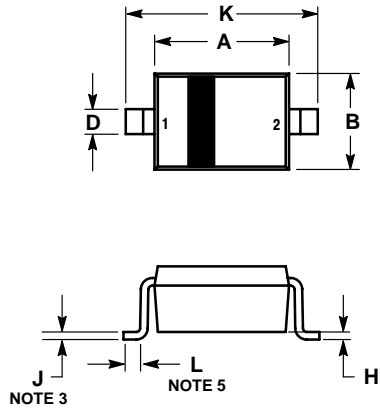


**Figure 4. Capacitance**

# MMDL6050T1

## PACKAGE DIMENSIONS

SOD-323  
CASE 477-02  
ISSUE D



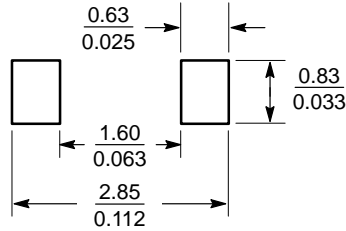
NOTES:

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	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106
L	0.075	---	0.003	---


STYLE 1:  
PIN 1. CATHODE  
2. ANODE

### SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

# MMDL6050T1

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