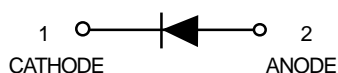


# Switching Diode

**MMDL6050T1**



## 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

## DEVICE MARKING

MMDL6050T1 = 5A

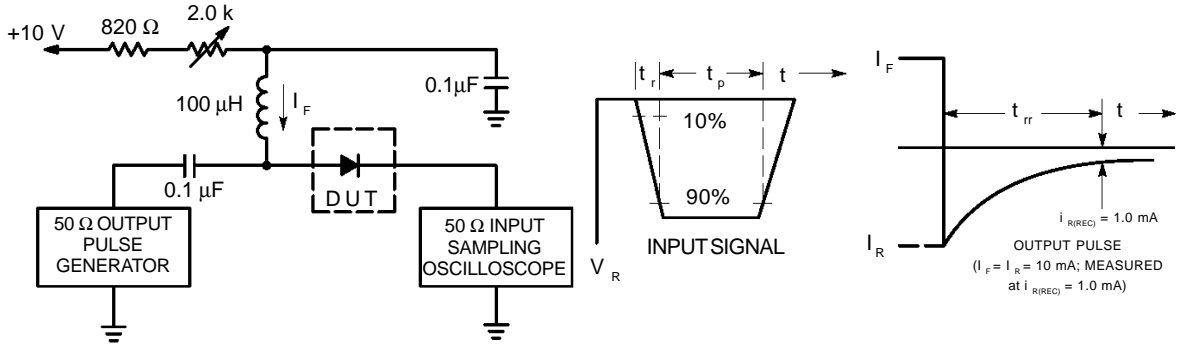
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

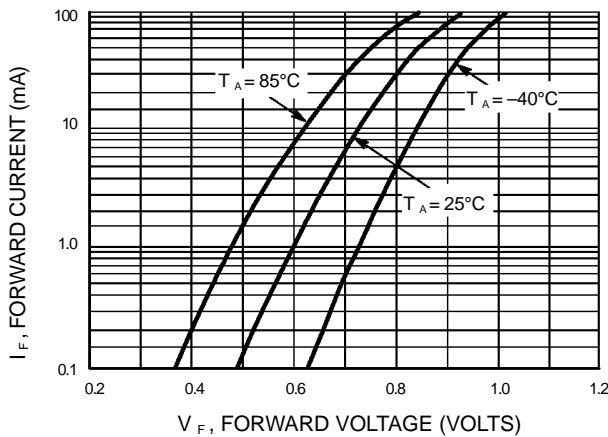
**MMDL6050T1**



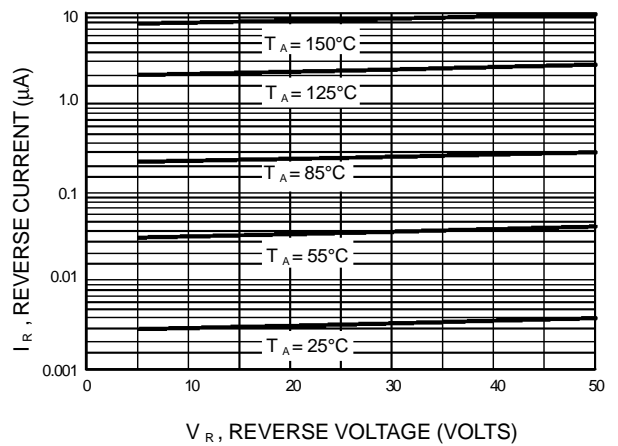
- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.  
 2. Input pulse is adjusted so  $I_{R(peak)}$  is equal to 10mA.  
 3.  $t_p \gg t_{rr}$

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

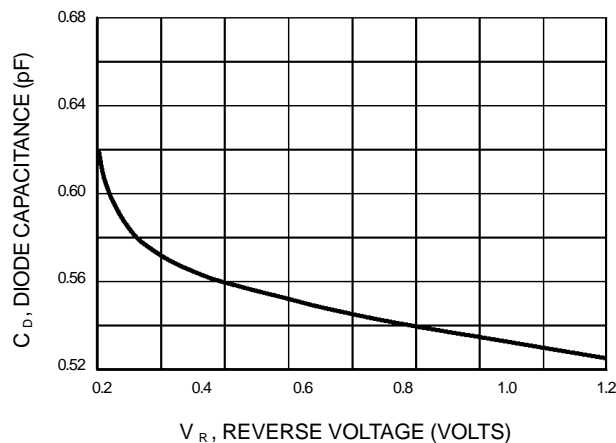
**TYPICAL CHARACTERISTICS**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**

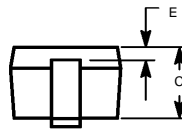
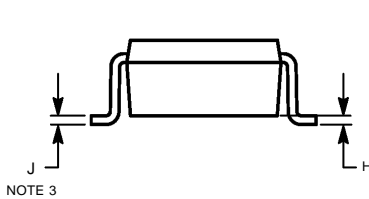
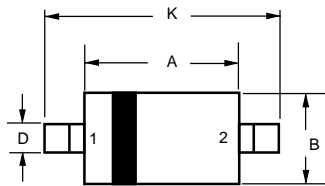


**Figure 4. Capacitance**

**MMDL6050T1**

**PACKAGE DIMENSIONS**

**SOD-323**  
 PLASTIC PACKAGE  
 CASE 477-02  
 ISSUE A



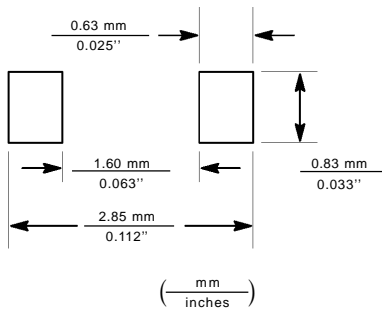
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

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

STYLE 1:

- PIN 1. CATHODE  
 2. ANODE



**SOD-323**  
 Soldering Footprint