



# MMBD6050

## SURFACE MOUNT SWITCHING DIODES

**VOLTAGE** 80 Volts **POWER** 225 mWatts

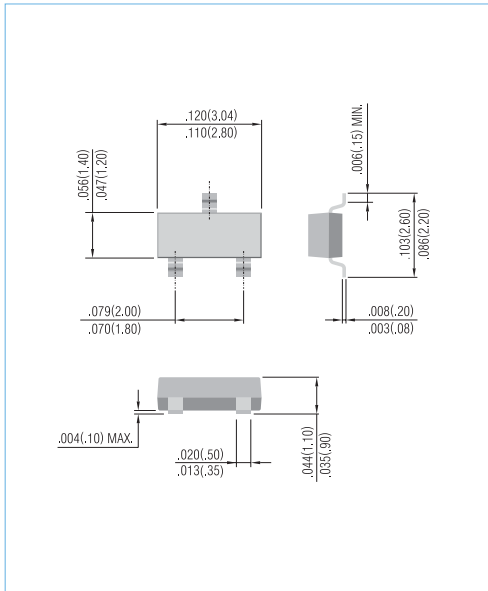
SOT-23 Unit: inch ( mm )

### FEATURES

- Very fast reverse recovery (  $t_{rr} < 2.0$  ns typical )
- Low capacitance (  $< 2.5$  pF @ 0V )
- Surface mount package ideally suited for automatic insertion.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

Case: SOT-23 plastic  
 Terminals : Solderable per MIL-STD-750,Method 2026  
 Approx weight : 0.008 gram  
 Marking : T2



### ABSOLUTE RATINGS

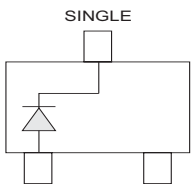
PARAMETER	SYMBOL	VALUE	UNITS
Maximum Reverse Voltage	$V_R$	80	V
Peak Reverse Voltage	$V_{RRM}$	80	V
Continuous Forward Current	$I_F$	0.2	A
Non-repetitive Peak Forward Surge Current at $t=1.0 \mu s$	$I_{FSM}$	4.0	A

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Power Dissipation <sup>(1)</sup>	$P_{TOT}$	225	mW
Thermal Resistance, Junction to Ambient <sup>(1)</sup>	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction Temperature	$T_J$	-50 to 150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-50 to 150	$^{\circ}C$

**NOTE:**

1. FR-4 Board=70 x 60 x 1mm.

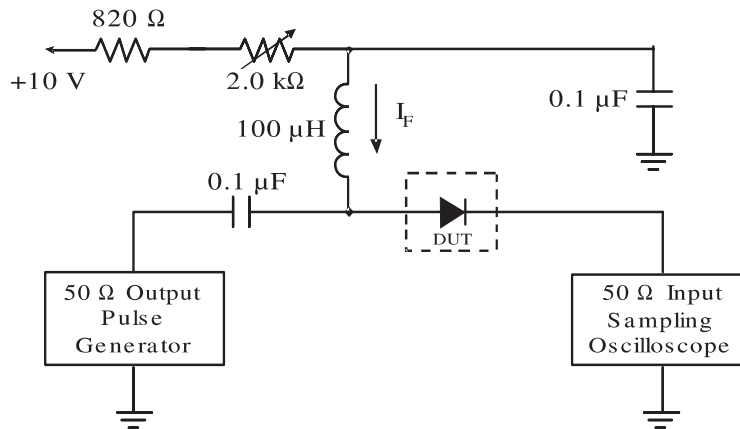




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## ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>R</sub> =100μA	80	-	-	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =50V	-	-	100	nA
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =1mA I <sub>F</sub> =100mA	0.55 0.85	-	0.7 1.1	V
Total Capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, f =1MHz	-	-	2.5	pF
Reverse Recovery Time (Figure 1)	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA, R <sub>L</sub> =100 Ω	-	-	4.0	ns

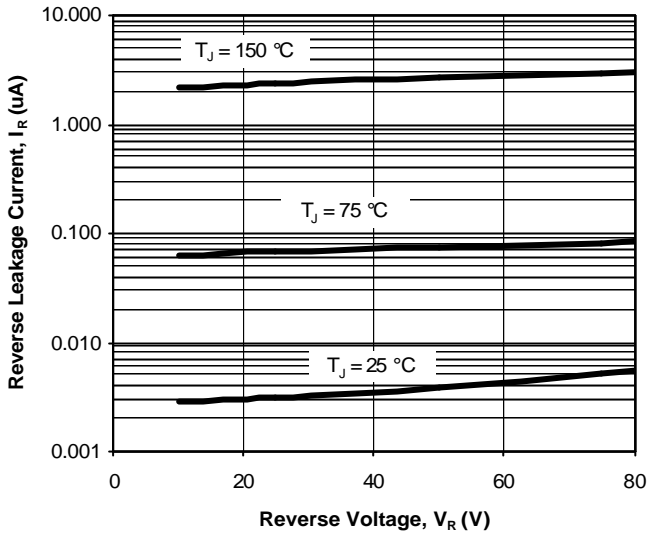


- Notes: 1. A 2.0kΩ variable resistor adjusted for a forward current (I<sub>F</sub>) to 10mA  
 2. Input pulse is adjusted to I<sub>R(peak)</sub> is equal to 10mA

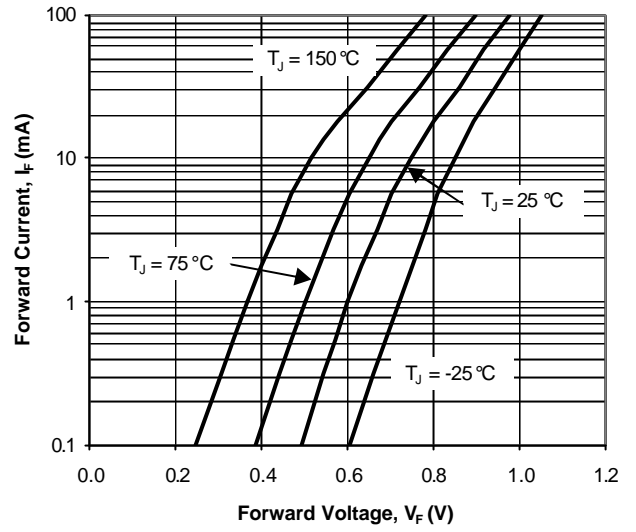
Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT



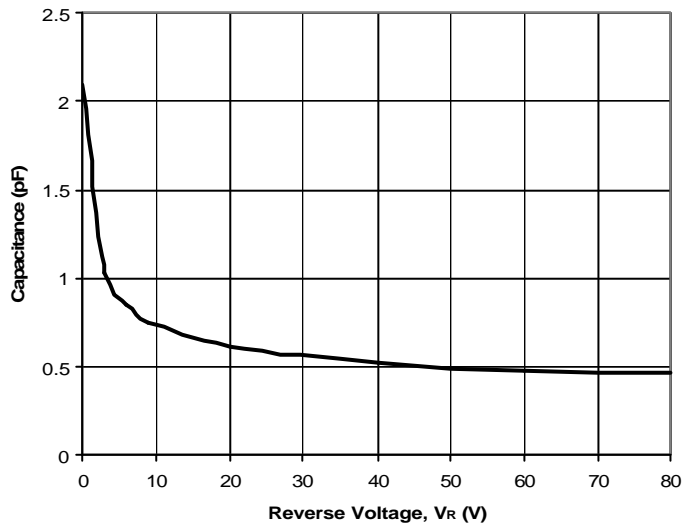
**ELECTRICAL CHARACTERISTIC CURVES**



**Fig. 2. Reverse Current vs. Reverse Voltage**



**Fig. 3. Forward Current vs. Forward Voltage**

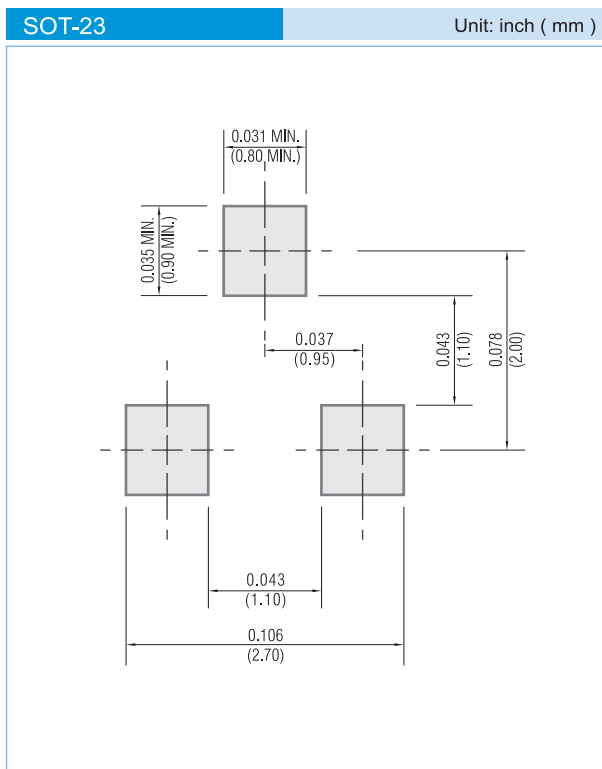


**Fig. 4. Capacitance vs. Reverse Voltage**



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## MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

### LEGAL STATEMENT

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