



# MMBD6050

## SURFACE MOUNT SWITCHING DIODES

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

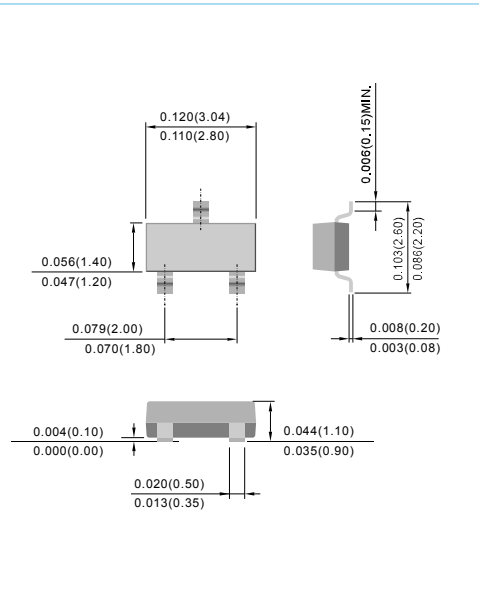
SOT-23 Unit: inch ( mm )

### FEATURES

- Very fast reverse recovery ( trr < 2.0 ns typical )
- Low capacitance ( < 2.5pF @ 0V )
- Surface mount package ideally suited for automatic insertion.
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

Case: SOT-23 plastic  
 Terminals : Solderable per MIL-STD-750,Method 2026  
 Approx weight : 0.0084 grams  
 Marking : T2



### ABSOLUTE RATINGS

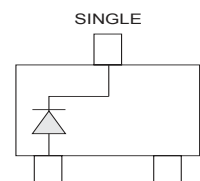
PARAMETER	SYMBOL	VALUE	UNITS
Maximum Reverse Voltage	V <sub>R</sub>	80	V
Peak Reverse Voltage	V <sub>RRM</sub>	80	V
Continuous Forward Current	I <sub>F</sub>	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0 ∞s	I <sub>FSM</sub>	4.0	A

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Power Dissipation <sup>(1)</sup>	P <sub>TOT</sub>	225	mW
Thermal Resistance, Junction to Ambient <sup>(1)</sup>	R <sub>θJA</sub>	556	°C/W
Junction Temperature	T <sub>J</sub>	-50 to 150	°C
Storage Temperature	T <sub>STG</sub>	-50 to 150	°C

**NOTE:**

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

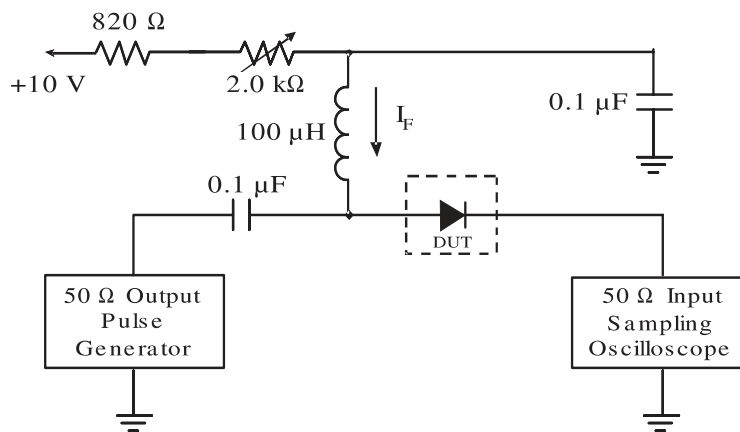




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## ELECTRICAL CHARACTERISTICS ( $T_j=25^{\circ}\text{C}$ , unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Reverse Breakdown Voltage	$V_{BR}$	$I_R=100\mu\text{A}$	80	-	-	V
Reverse Current	$I_R$	$V_R=50\text{V}$	-	-	100	nA
Forward Voltage	$V_F$	$I_F=1\text{mA}$ $I_F=100\text{mA}$	0.55 0.85	-	0.7 1.1	V
Total Capacitance	$C_T$	$V_R=0\text{V}$ , $f=1\text{MHz}$	-	-	2.5	pF
Reverse Recovery Time (Figure 1)	$t_{rr}$	$I_F=I_R=10\text{mA}$ , $R_L=100\ \Omega$	-	-	4.0	ns

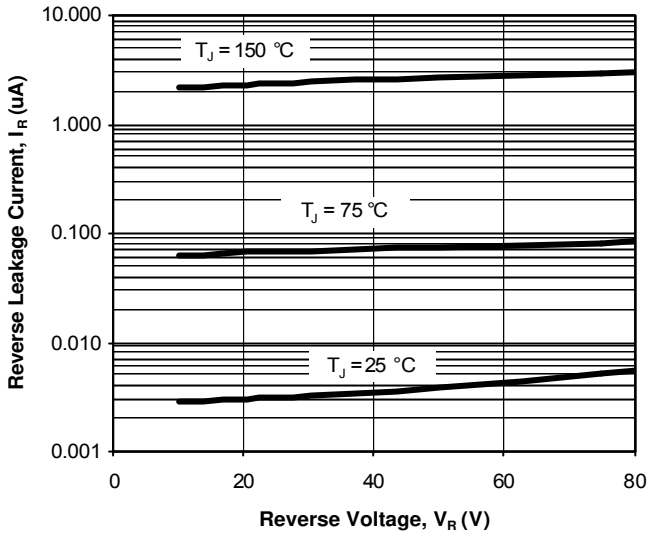


- Notes: 1. A  $2.0\text{k}\Omega$  variable resistor adjusted for a forward current ( $I_F$ ) to  $10\text{mA}$   
 2. Input pulse is adjusted to  $I_{R(\text{peak})}$  is equal to  $10\text{mA}$

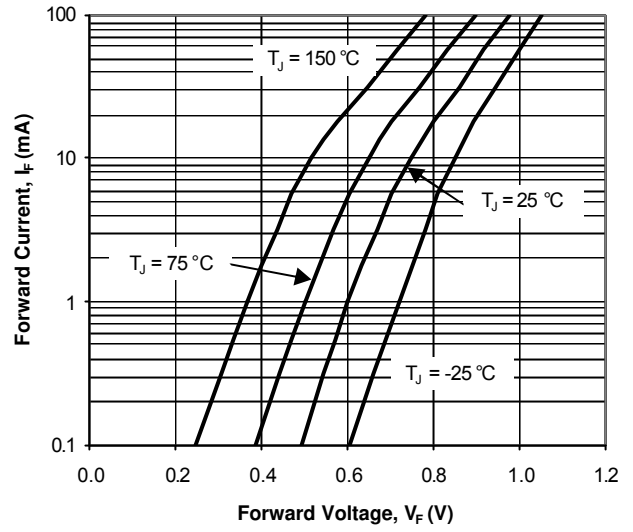
Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT



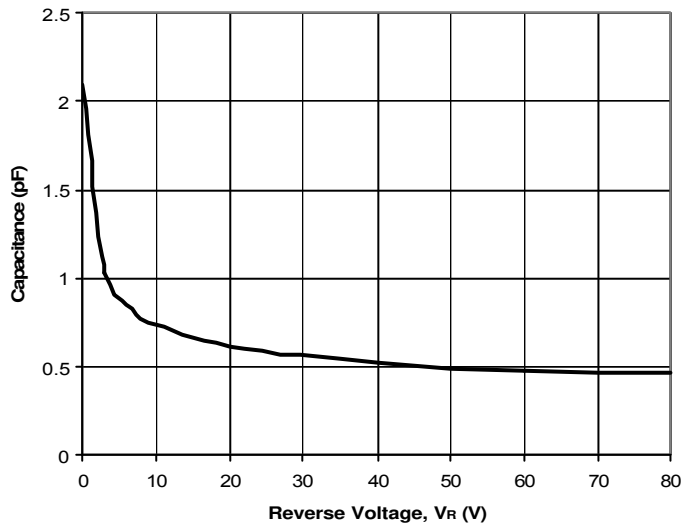
**ELECTRICAL CHARACTERISTIC CURVES**



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



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

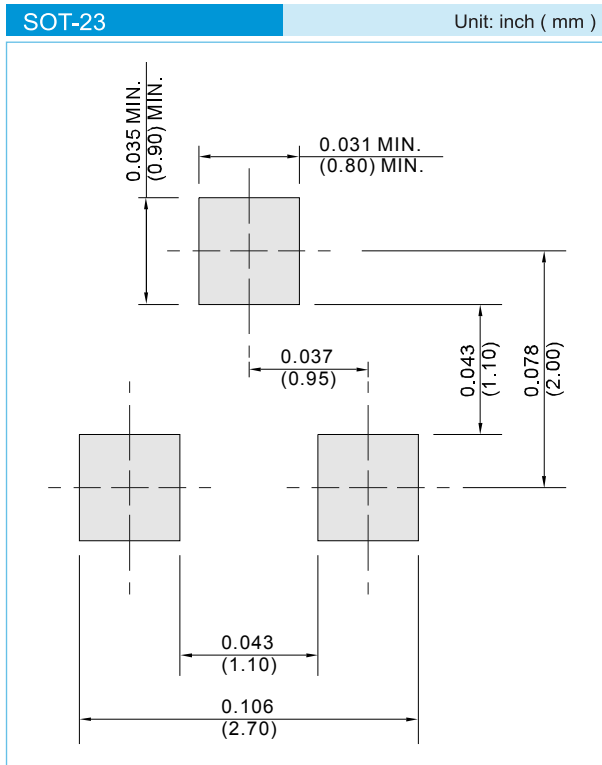


**Fig. 4. Capacitance vs. Reverse Voltage**



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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



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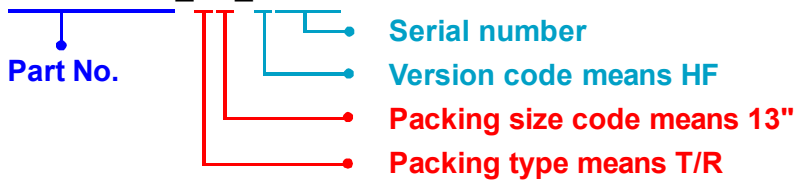
## Part No\_packing code\_Version

MMBD6050\_R1\_00001

MMBD6050\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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