



# MMBD7000W

## SURFACE MOUNT SWITCHING DIODE

SOT-323

Unit: inch (mm)

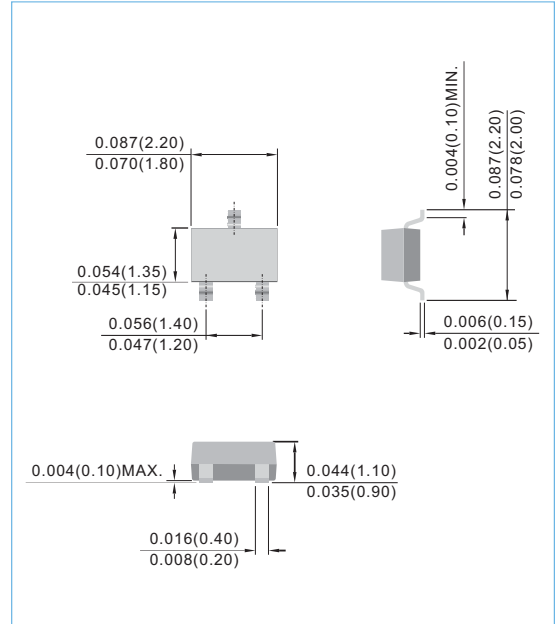
**VOLTAGE** 100 Volts **POWER** 200 mWatts

### FEATURES

- Very fast reverse recovery ( $t_{rr} < 2.0$  ns typical)
- Isolated, series-connected diode pair
- 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-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0048 gram
- Marking: T3



### ABSOLUTE RATINGS

PARAMETER	Symbol	Value	Units
Maximum Reverse Voltage	$V_R$	100	V
Peak Reverse Voltage	$V_{RRM}$	100	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 (Note 1)	$P_{TOT}$	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction Temperature	$T_J$	-55 to 150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}C$

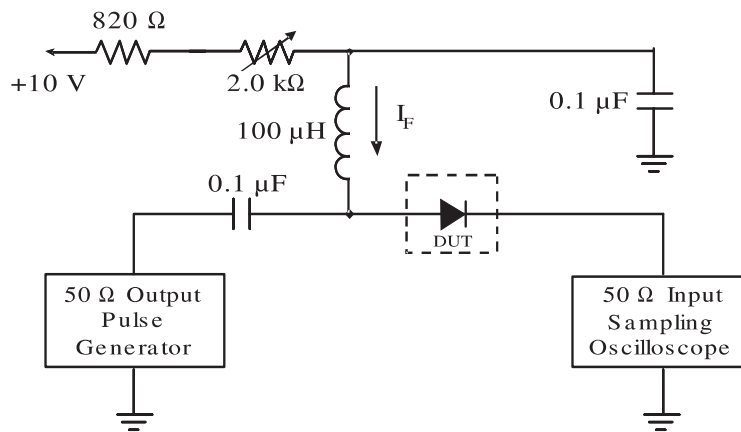
Note 1. FR-4 Board = 70 x 60 x 1mm.



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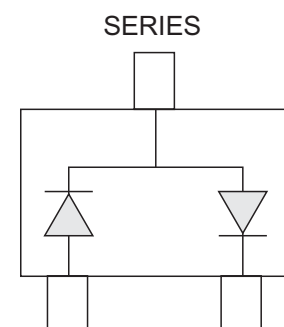
## ELECTRICAL CHARACTERISTICS

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100 \mu A$	100	--	--	V
Reverse Current	$I_r$	$V_R=50 V$ $V_R=100 V$ $V_R=50 V, T_J=125^\circ C$	--	--	1.0 3.0 100	$\mu A$
Forward Voltage	$V_F$	$I_F=1.0mA$ $I_F=10mA$ $I_F=100mA$	--	--	0.70 0.82 1.10	V
Total Capacitance	$C_J$	$V_R=0V, f=1.0MHz$	--	--	2.0	pF
Reverse Recovery Time (Figure 1)	$t_{rr}$	$I_F=I_R=10mA, R_L=100\Omega$	--	--	4.0	ns



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

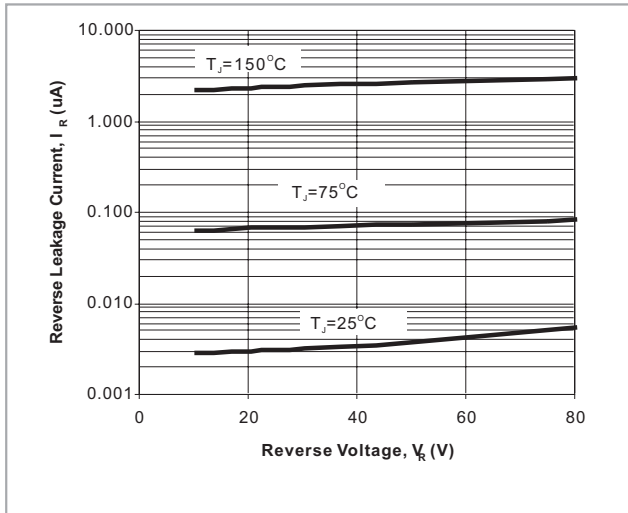
Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT



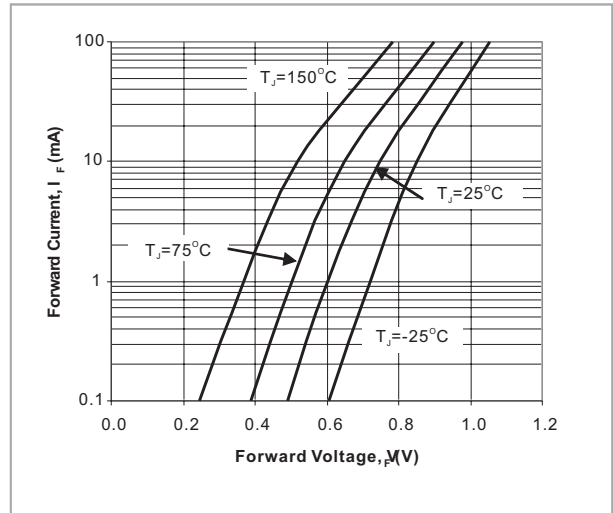


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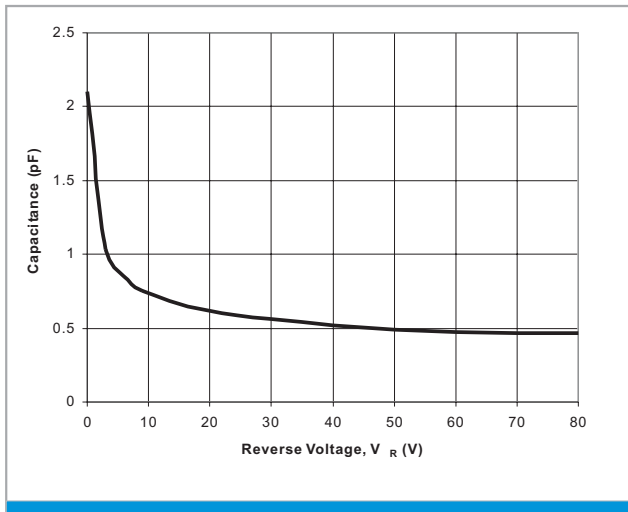
## ELECTRICAL CHARACTERISTICS CURVE



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



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

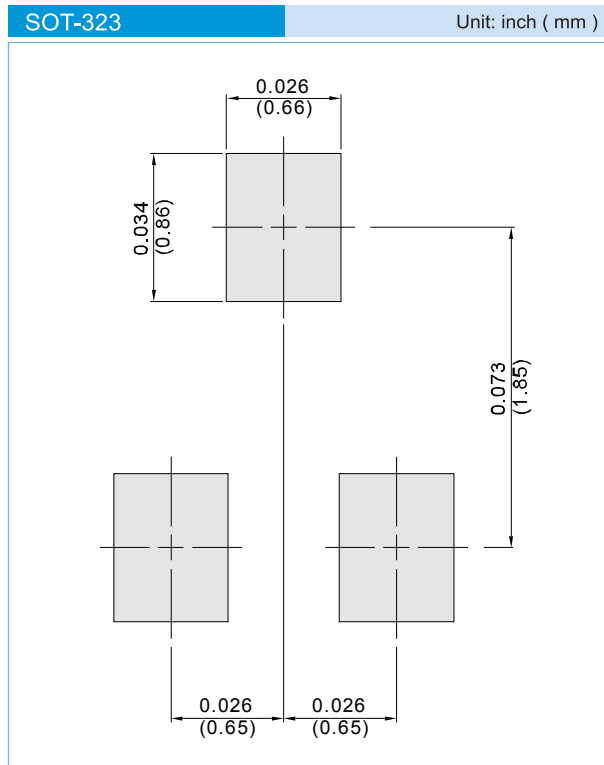


**Fig. 4. Capacitance vs. Reverse Voltage**



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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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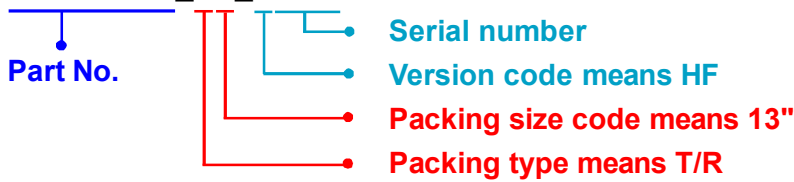
## Part No\_packing code\_Version

MMBD7000W\_R1\_00001

MMBD7000W\_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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