



# DATA SHEET

## MMBD914

### SURFACE MOUNT SWITCHING DIODE

<b>VOLTAGE</b>	<b>100 Volts</b>	<b>POWER</b>	<b>225 mWatts</b>
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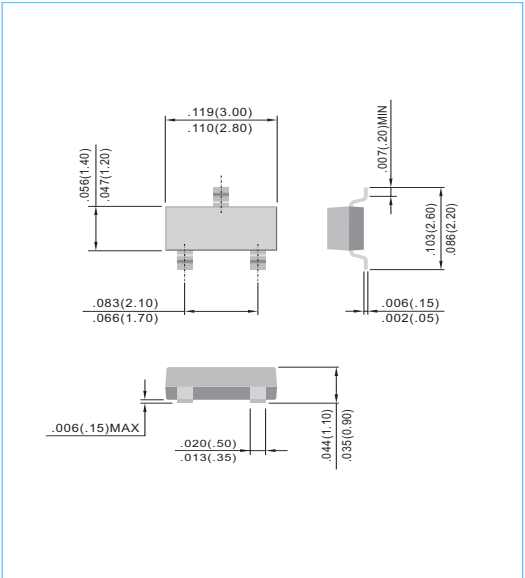
<b>SOT-23</b>	Unit: inch (mm)
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#### FEATURES

- Very fast reverse recovery ( $T_{rr} < 2.0$  ns typical)
- Low capacitance (4pF @ 0V typical)
- Surface mount package ideally suited for automatic insertion
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 99% Sn above

#### MECHANICAL DATA

Case: SOT-23, Plastic  
 Terminals: Solderable per MIL-STD-202G, Method 208  
 Approx. Weight: 0.008 gram  
 Marking: T1



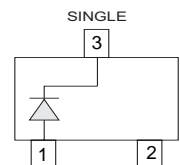
#### ABSOLUTE RATINGS

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 $t=1.0$ us	$I_{FSM}$	2.0	A

#### THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Power Dissipation (Note 1)	$P_{TOT}$	225	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	$^{\circ}C$

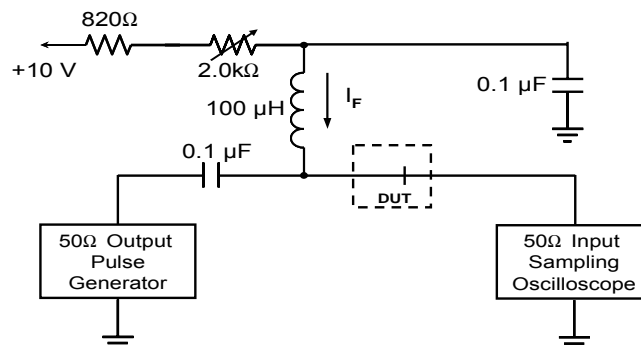
Note 1. FR-5 Board = 1.0x0.75x0.062 in.





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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Breakdown Voltage	V <sub>(BR)</sub>	I <sub>R</sub> =100uA	100	-	-	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =20V	-	-	0.025	uA
		V <sub>R</sub> =75V	-	-	5.0	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	-	-	1.0	V
Total Capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, f =1MHz	-	-	4.0	pF
Reverse Recovery Time (Figure 1)	T <sub>RR</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA, R <sub>L</sub> =100Ω	-	-	4.0	ns

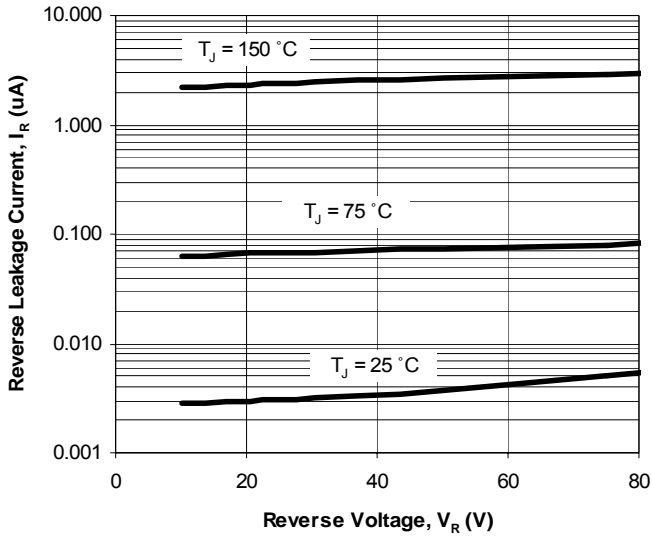


- Notes: 1. A 2.0kΩ variable resistor adjusted for a forward current (I<sub>F</sub>) to 10mA  
 2. Input pulse is adjusted to I<sub>R(peak)</sub> is equal to 10mA

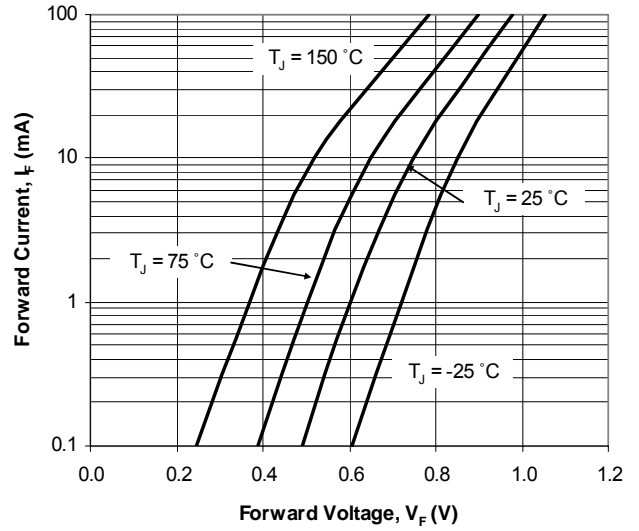
**Figure 1. REVERSE RECOVERY TIME EQUIVALENT TEST CIRCUIT**



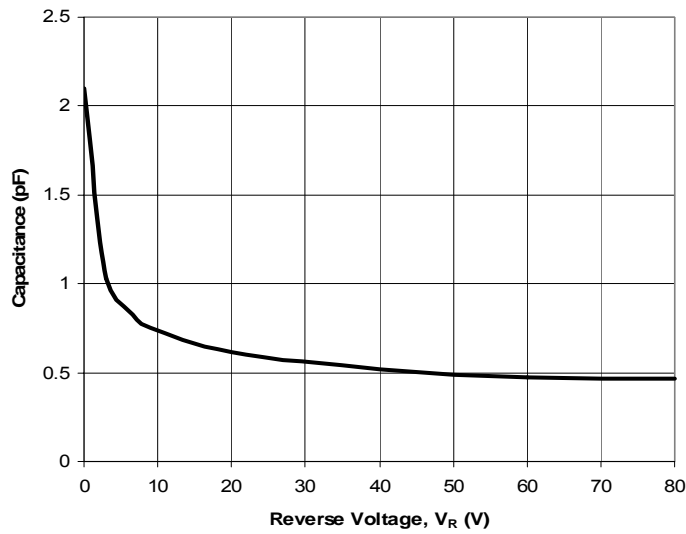
**ELECTRICAL CHARACTERISTICS CURVE**



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



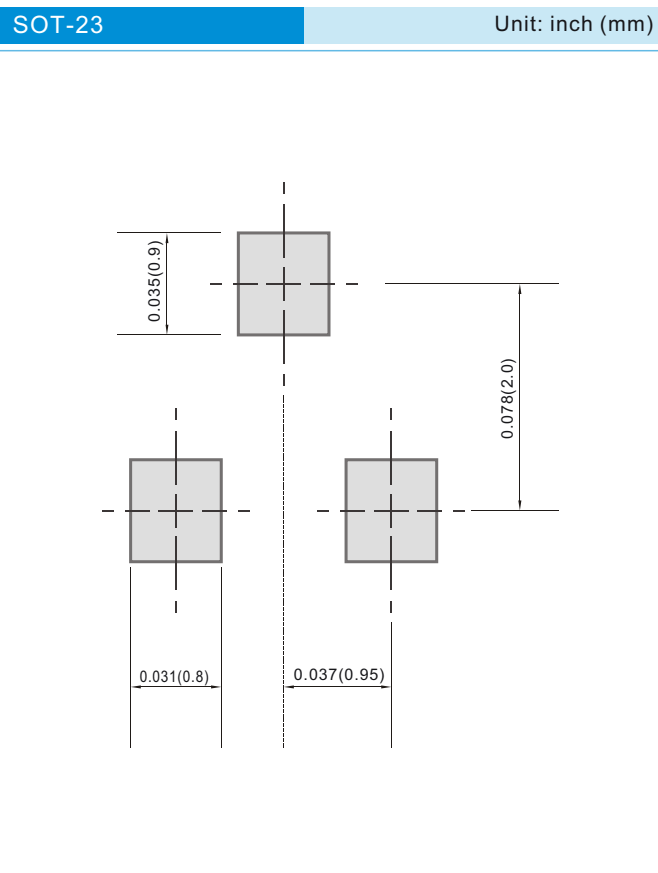
**Fig. 3. Forward Current vs. Forward Voltage**



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



## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3.0K per 7" plastic Reel

## LEGAL STATEMENT

### IMPORTANT NOTICE

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

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