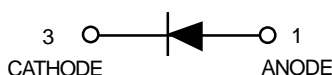
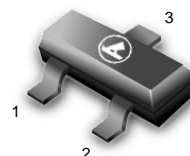


# High-Speed Switching Diode


**MMBD914LT1**

 CASE 318-08, STYLE 8  
SOT- 23 (TO-236AB)

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	100	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 <sup>(1)</sup> $T_A = 25^\circ\text{C}$	$P_D$	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, <sup>(2)</sup> $T_A = 25^\circ\text{C}$	$P_D$	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	°C

## DEVICE MARKING

MMBD914LT1 = 5D

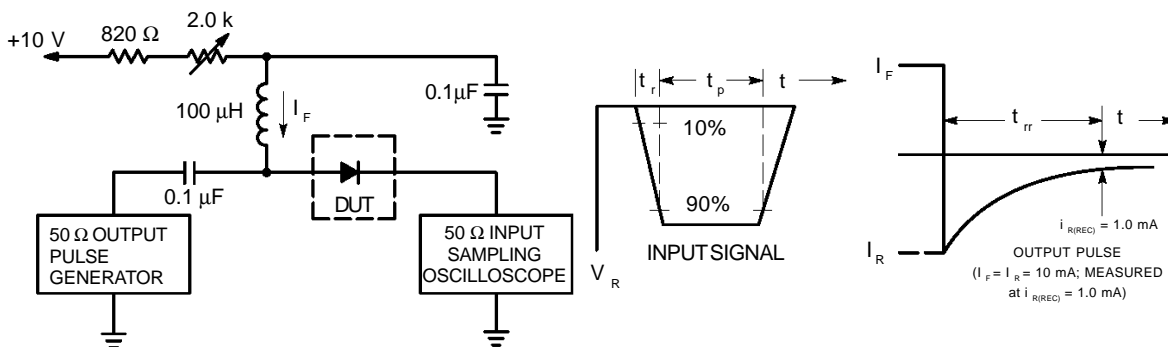
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_R = 100 \mu\text{Adc}$ )	$V_{(BR)}$	100	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 20 \text{ Vdc}$ )	$I_R$	—	25	nAdc
( $V_R = 75 \text{ Vdc}$ )		—	5.0	$\mu\text{Adc}$
Diode Capacitance ( $V_R = 0, f = 1.0 \text{ MHz}$ )	$C_T$	—	4.0	pF
Forward Voltage ( $I_F = 10 \text{ mAdc}$ )	$V_F$	—	1.0	Vdc
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mAdc}$ ) (Figure 1)	$t_{rr}$	—	4.0	ns

1. FR-5 = 1.0 x 0.75 x 0.062 in.

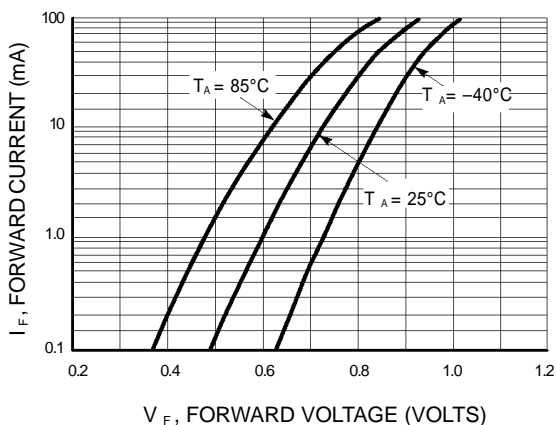
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

**MMBD914LT1**

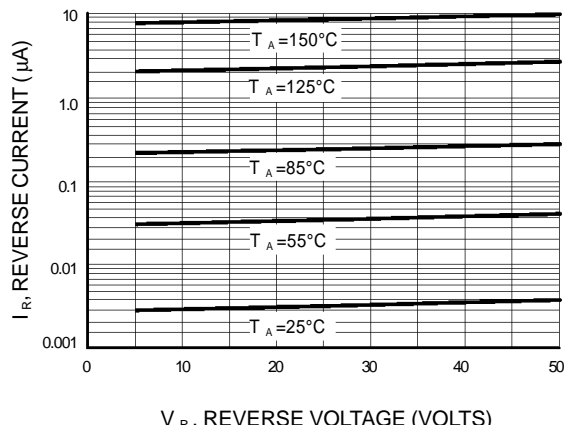


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.  
 2. Input pulse is adjusted so  $I_{R(peak)}$  is equal to 10mA.  
 3.  $t_p \gg t_{rr}$

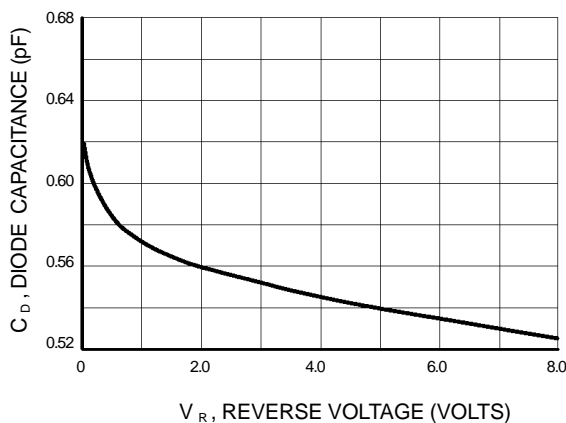
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**