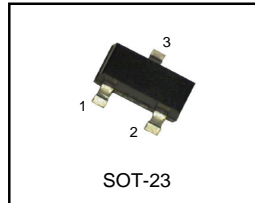


## High-Speed Switching Diode

Lead free product

**MMBD914G**



### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	100	Vdc
Peak Forward Current	$I_F$	200	mAdc
Peak Forward Surge Current	$I_{FM}(\text{surge})$	500	mAdc

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board <sup>(1)</sup> $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225 1.8	mW mW / $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C} / \text{W}$
Total Device Dissipation Alumina Substrate, <sup>(2)</sup> $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300 2.4	mW mW / $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C} / \text{W}$
Junction and Storage Temperature	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min.	Max.	Unit
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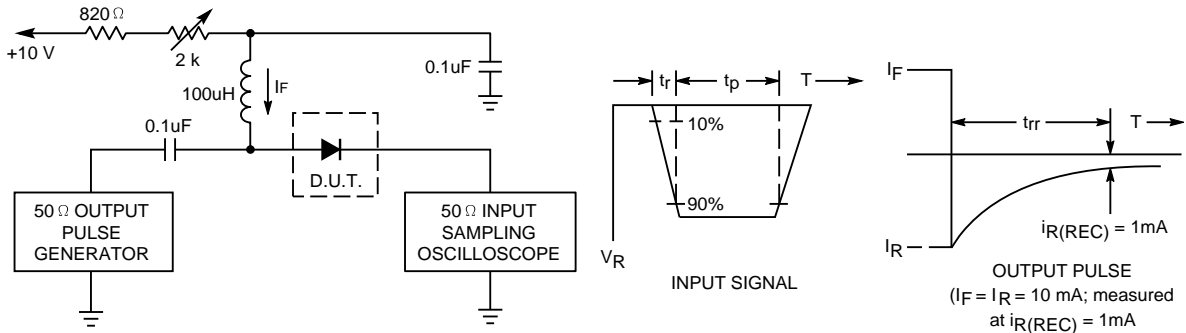
### OFF CHARACTERISTICS

Reverse Breakdown Voltage ( $I_{BR}=100 \mu\text{Adc}$ )	$V_{(BR)}$	100	-	Vdc	
Forward Voltage ( $I_F=10 \text{ mAdc}$ )	$V_F$	-	1000	mVdc	
Reverse Voltage Leakage Current	$I_R$	( $V_R=20 \text{ Vdc}$ )	-	0.025	$\mu\text{Adc}$
		( $V_R=75 \text{ Vdc}$ )	-	5.0	
Diode Capacitance ( $V_R=0, f=1.0\text{MHz}$ )	$C_J$	-	4.0	pF	
Reverse Recovery Time ( $I_F=I_R=10 \text{ mAdc}$ , $I_R(\text{REC})=1.0 \text{ mAdc}$ , measured at $I_R=1.0 \text{ mA}$ $R_L=100 \Omega$ )	$t_{rr}$	-	4.0	nS	

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

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

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



- Notes: 1. A 2.0kΩ 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 2. FORWARD VOLTAGE

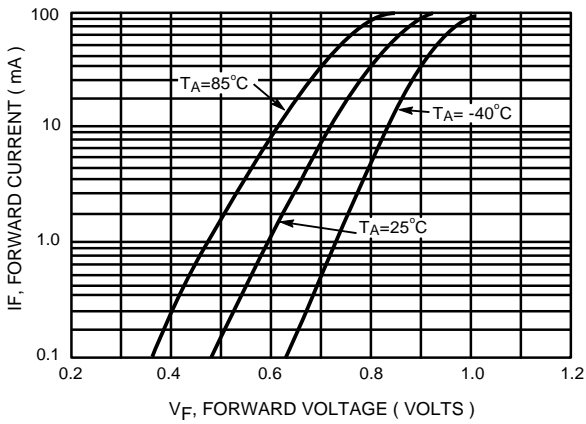


FIGURE 3. LEAKAGE CURRENT

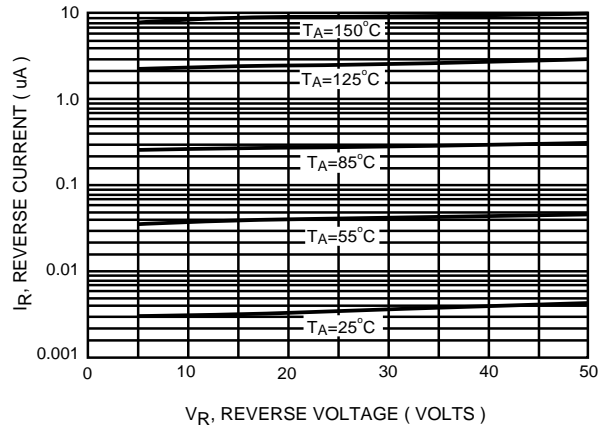


FIGURE 4. CAPACITANCE

