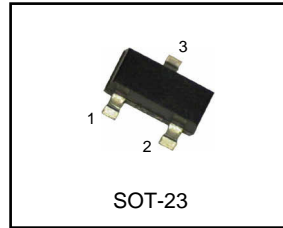


High-Speed Switching Diode

MMBD914



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	VR	100	Vdc
Peak Forward Current	IF	200	mAdc
Peak Forward Surge Current	IFM(surge)	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board ⁽¹⁾ TA=25°C Derate above 25°C	PD	225 1.8	mW mW / °C
Thermal Resistance, Junction to Ambient	R θ JA	556	°C / W
Total Device Dissipation Alumina Substrate, ⁽²⁾ TA=25°C Derate above 25°C	PD	300 2.4	mW mW / °C
Thermal Resistance, Junction to Ambient	R θ JA	417	°C / W
Junction and Storage Temperature	TJ,TSTG	-55 to +150	°C

DEVICE MARKING

MMBD914=5D

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Min.	Max.	Unit
----------------	--------	------	------	------

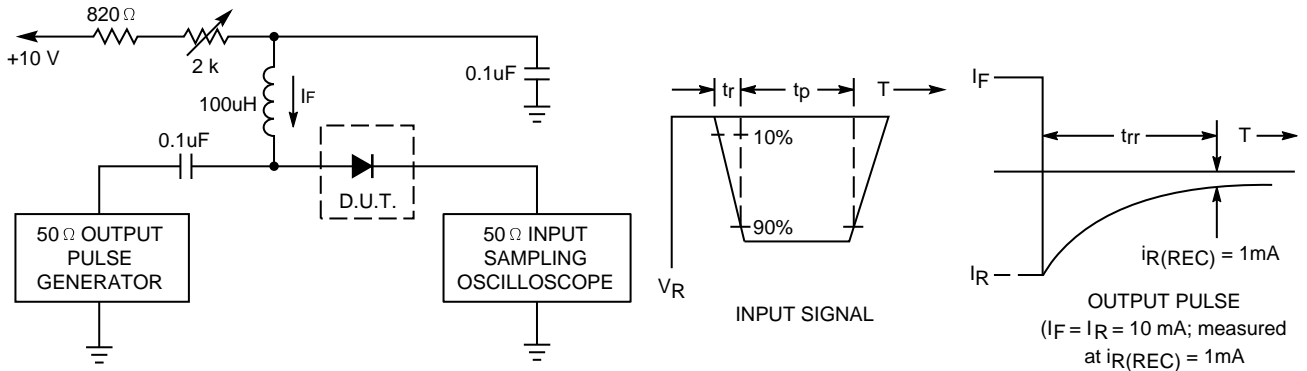
OFF CHARACTERISTICS

Reverse Breakdown Voltage (IBR=100 uAdc)	V(BR)	100	-	Vdc
Forward Voltage (IF=10 mAdc)	VF	-	1000	mVdc
Reverse Voltage Leakage Current (VR=20 Vdc) (VR=75 Vdc)	IR	- -	0.025 5.0	uAdc
Diode Capacitance (VR=0, f=1.0MHz)	CJ	-	4.0	pF
Reverse Recovery Time (IF=IR=10 mAdc, IR(REC)=1.0mAdc, measured at IR=1.0mA RL=100 Ω)	trr	-	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

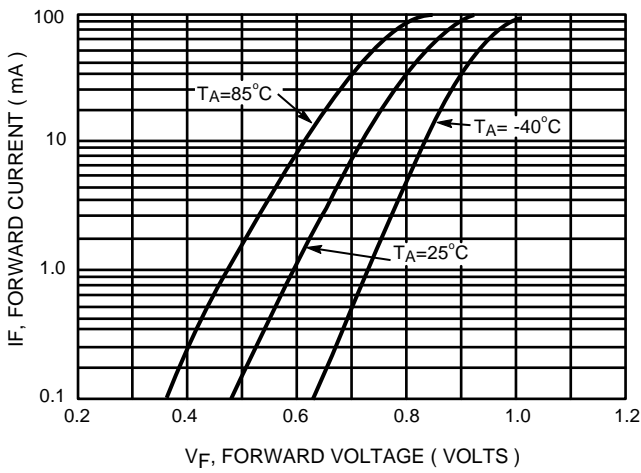


FIGURE 3. LEAKAGE CURRENT

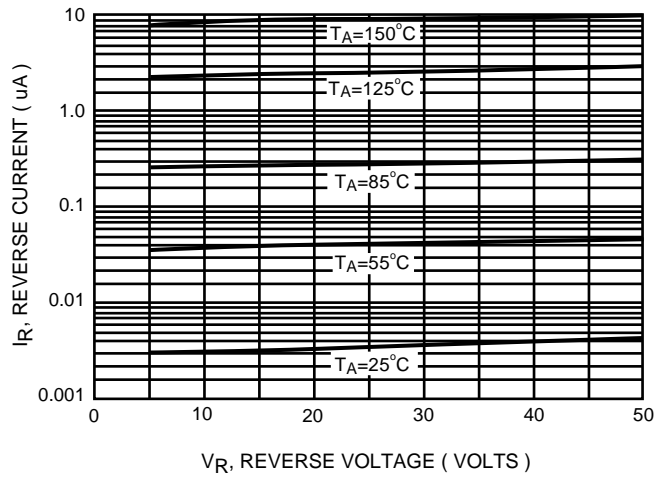


FIGURE 4. CAPACITANCE

