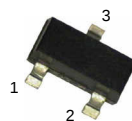
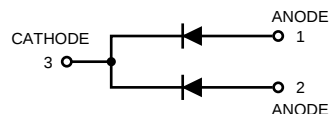


Monolithic Dual Switching Diode

MMBD6100



SOT-23



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	70	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 ⁽¹⁾ $T_A=25^\circ\text{C}$ Derate above 25°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, ⁽²⁾ $T_A=25^\circ\text{C}$ Derate above 25°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	$^\circ\text{C}$

DEVICE MARKING

MMBD6100=5BM

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

Characteristic	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Reverse Breakdown Voltage ($I_{BR}=100\mu\text{Adc}$)		$V_{(BR)}$	70	-	Vdc
Forward Voltage	($I_F=1.0\text{ mAdc}$)	V_F	550	700	mVdc
	($I_F=100\text{ mAdc}$)		850	1100	
Reverse Voltage Leakage Current ($V_R=50\text{ Vdc}$)		I_R	- -	0.1	μAdc
Diode Capacitance ($V_R=0$, $f=1.0\text{ MHz}$)		C_J	-	2.5	pF
Reverse Recovery Time ($I_F=I_R=10\text{ mAdc}$, $I_{R(REC)}=1.0\text{ mAdc}$)		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

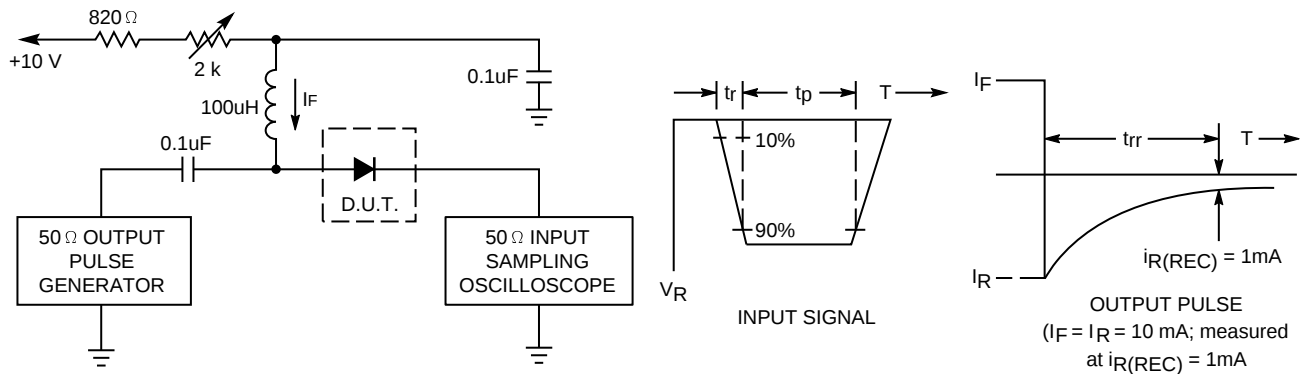


FIGURE 2. FORWARD VOLTAGE

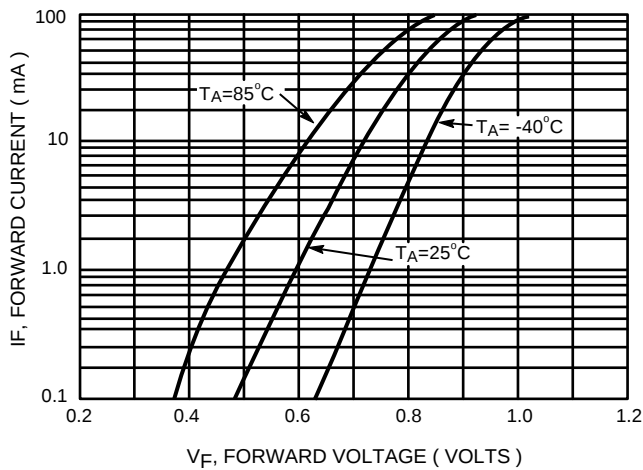


FIGURE 3. LEAKAGE CURRENT

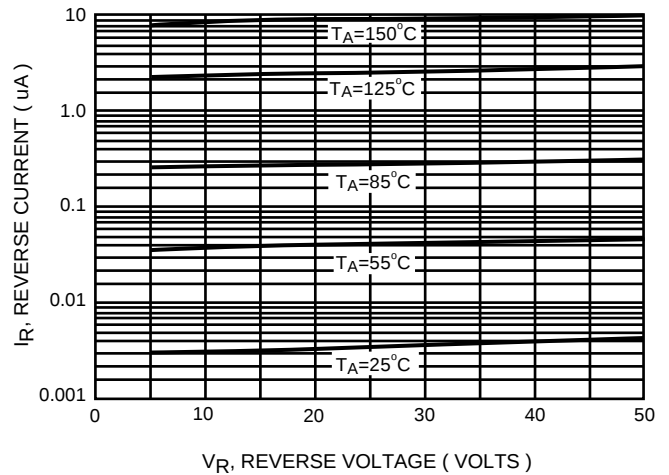


FIGURE 4. CAPACITANCE

