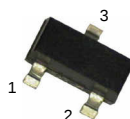
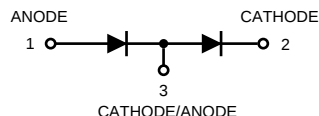


Dual Switching Diode

MMBD7000



SOT-23



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
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 ⁽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

MMBD7000=M5C

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 ($I_{BR}=100\mu\text{Adc}$)		$V_{(BR)}$	100	-	Vdc
Forward Voltage	($I_F=1.0\text{ mAdc}$) ($I_F=10\text{ mAdc}$) ($I_F=100\text{ mAdc}$)	V_F	550 670 750	700 820 1100	mVdc
Reverse Voltage Leakage Current	($V_R=50\text{ Vdc}$) ($V_R=100\text{ Vdc},$) ($V_R=50\text{ Vdc}, 125^\circ\text{C}$)	I_R	- - -	1.0 3.0 100	μAdc
Diode Capacitance ($V_R=0, f=1.0\text{MHz}$)		C_J	-	1.5	pF
Reverse Recovery Time ($I_F=I_R=10\text{ mAdc}, V_R=5.0\text{ Vdc}, I_R(\text{REC})=1.0\text{ mAdc}, R_L=100\Omega$)		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

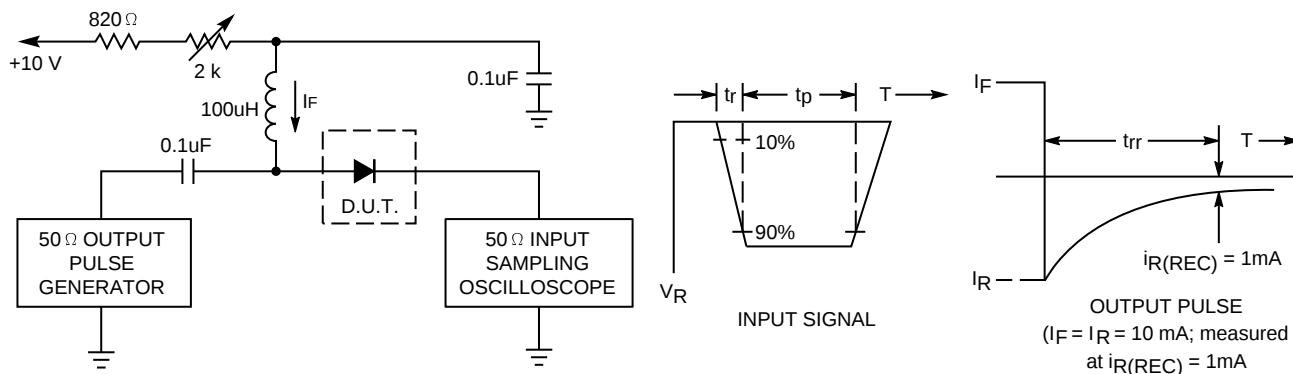


FIGURE 2. FORWARD VOLTAGE

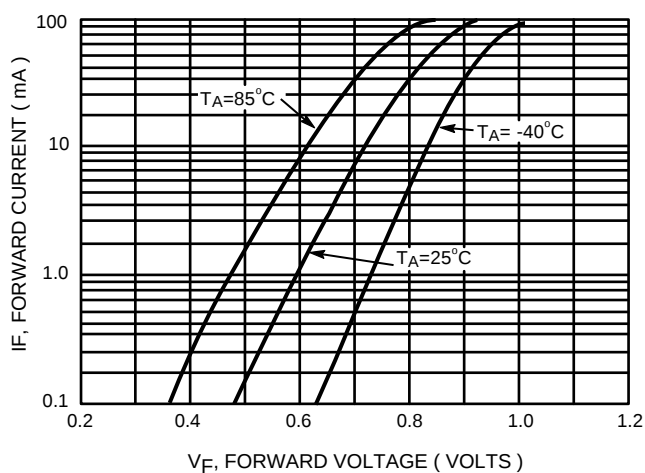


FIGURE 3. LEAKAGE CURRENT

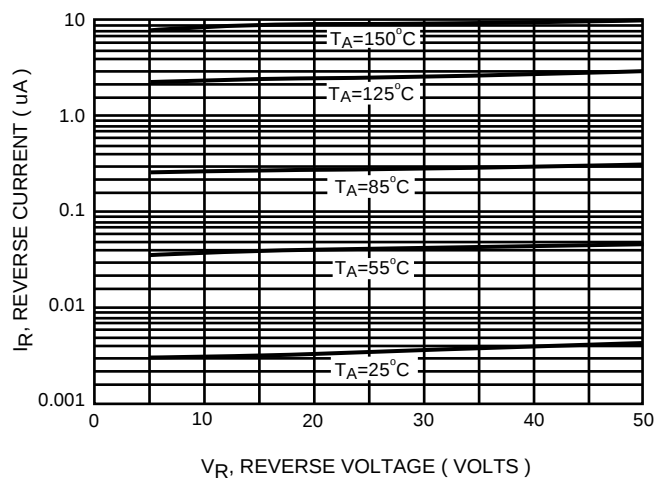


FIGURE 4. CAPACITANCE

