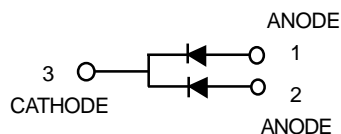
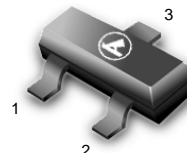


# Monolithic Dual Switching Diode



## MMBD6100LT1



CASE 318-08, STYLE9  
SOT- 23 (TO-236AB)

### MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	70	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 $25^\circ\text{C}$		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, <sup>(2)</sup> $T_A = 25^\circ\text{C}$	$P_D$	300	mW
Derate above $25^\circ\text{C}$		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### DEVICE MARKING

MMBD6100LT1 = 5BM

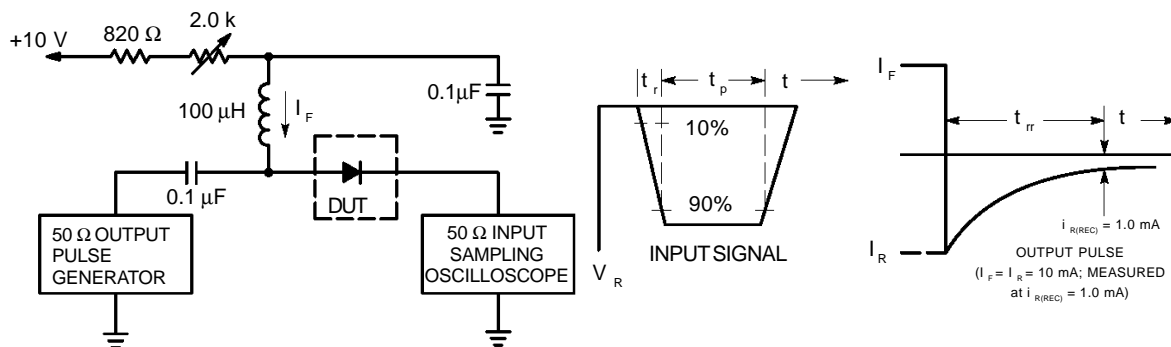
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)(EACH DIODE)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ( $V_R = 50 \text{ Vdc}$ )	$I_R$	—	0.1	$\mu\text{Adc}$
Forward Voltage ( $I_F = 1.0 \text{ mAdc}$ )	$V_F$	0.55	0.7	Vdc
( $I_F = 100 \text{ mAdc}$ )		0.85	1.1	
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mAdc}, I_{R(REC)} = 1.0 \text{ mAdc}$ ) (Figure 1)	$t_{rr}$	—	4.0	ns
Capacitance ( $V_R = 0\text{V}$ )	$C$	—	2.5	pF

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.

### MMBD6100LT1



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

Figure 1. Recovery Time Equivalent Test Circuit

### CURVES APPLICABLE TO EACH CATHODE

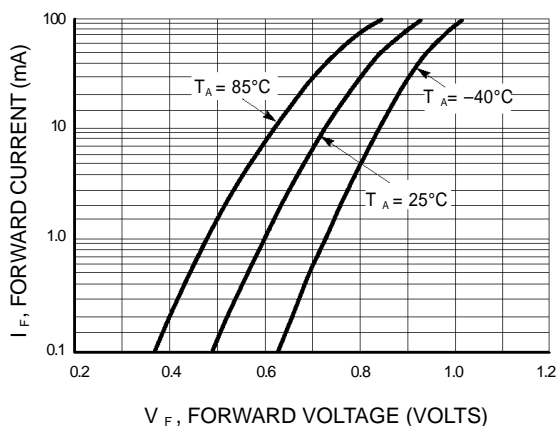


Figure 2. Forward Voltage

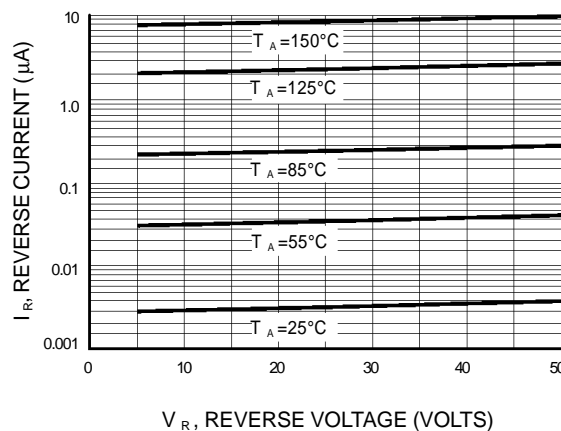


Figure 3. Leakage Current

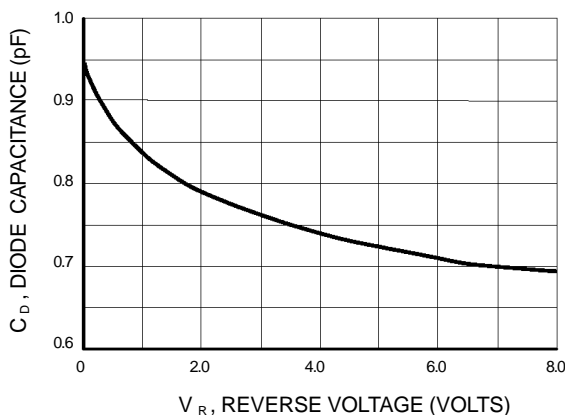


Figure 4. Capacitance