

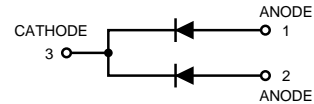
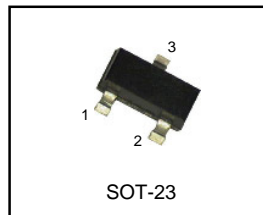
# Monolithic Dual Switching Diodes

## Lead free product

### FETURE

- We declare that the material of product compliance with RoHS requirements.

**MMBD2837G**  
**MMBD2838G**



### MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Peak Reverse Voltage	$V_{RM}$	75	Vdc
D.C Reverse Voltage	MMBD2837G $V_R$	30	Vdc
	MMBD2838G	50	
Peak Forward Current	$I_{FM}$	450	mAdc
		300	
Average Rectified Current	$I_O$	150	mAdc
		100	

### 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	$^\circ\text{C}$

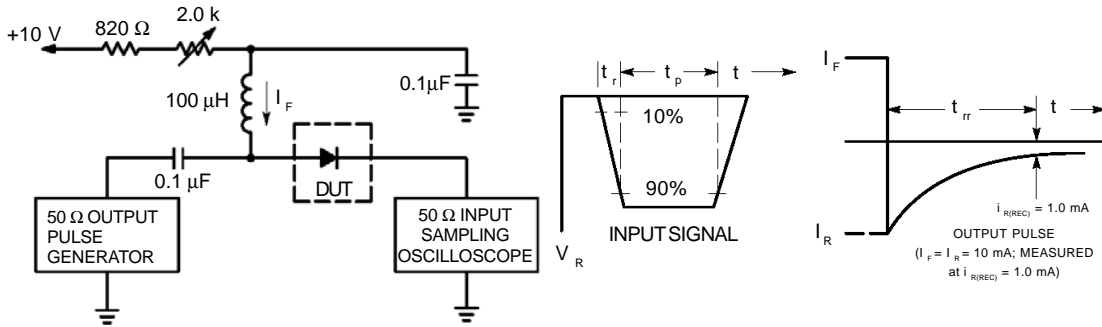
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted) ( EACH DIODE )

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{BR} = 100\mu\text{Adc}$ )	MMBD2837G $V_{(BR)}$	35	—	Vdc
	MMBD2838G	75	—	
Reverse Voltage Leakage Current ( $V_R = 30\text{ Vdc}$ )	$I_R$	—	0.1	$\mu\text{Adc}$
( $V_R = 50\text{ Vdc}$ )	MMBD2837G	—	0.1	
	MMBD2838G	—	0.1	
Diode Capacitance ( $V_R = 0\text{ V}$ , $f = 1.0\text{ MHz}$ )	$C_T$	—	4.0	pF
Forward Voltage ( $I_F = 10\text{ mAdc}$ )	$V_F$	—	1.0	Vdc
( $I_F = 50\text{ mAdc}$ )		—	1.0	
( $I_F = 100\text{ mAdc}$ )		—	1.2	
Reverse Recovery Time ( $I_F = 10\text{ mAdc}, I_{R(REC)} = 1.0\text{ mAdc}$ ) (Figure 1) $t_{rr}$		—	4.0	ns

1. FR-5 =  $1.0 \times 0.75 \times 0.062\text{ in.}$

2. Alumina =  $0.4 \times 0.3 \times 0.024\text{ in.}$  99.5% alumina.

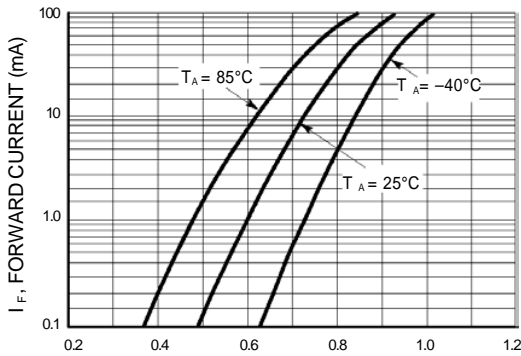
**MMBD2837G**  
**MMBD2838G**



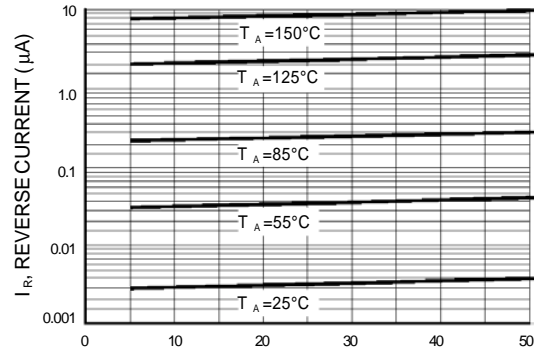
- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.  
 2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10mA.  
 3.  $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**

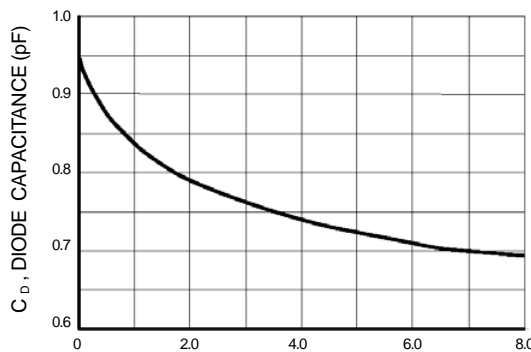
**CURVES APPLICABLE TO EACH CATHODE**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**