

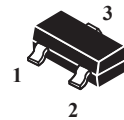
Surface Mount Switching Diode

 Lead(Pb)-Free

Features:

- *Low Current Leakage
- *Low Forward Voltage
- *Reverse Recover Time $T_{rr} \leq 4ns$
- *Small Outline Surface Mount SOT-23 Package

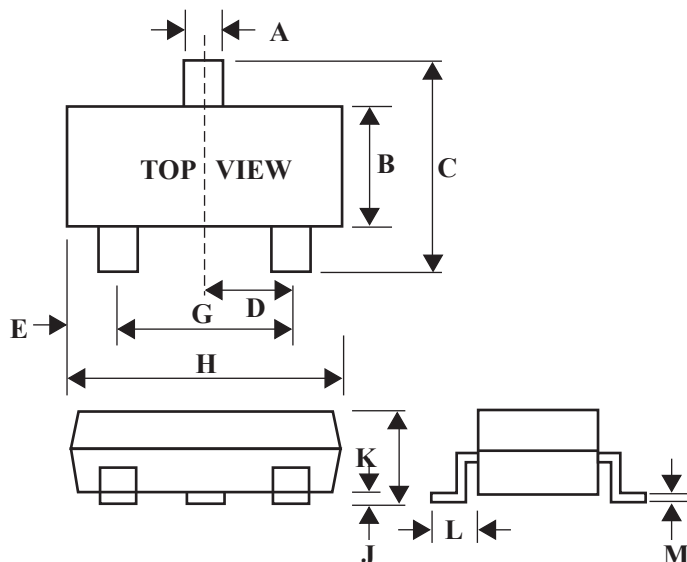
SWITCHING DIODE
100-200m AMPERRES
75-100 VOLTS



SOT-23

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

Maximum Ratings (EACH DIODE)

Characteristic	Symbol	MMBD2836	MMBD2838	MMBD7000	Unit
Reverse Voltage	V_R	75		100	Volts
Forward Current	I_F	100		200	mAdc
Peak Forward Surge Current	I_{FM}	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	$^\circ\text{C}$

*1 ER-5=1.0x0.75x0.062 in

*2 Alumina=0.4x0.3x0.024 in 99.5% Alumina

Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless Otherwise Note) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
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Off Characteristics

Reverse Breakdown Voltage($I_{BR}=100\mu\text{Adc}$) MMBD2836/MMBD2838 MMBD7000	V_{BR}	75 100	-	Vdc
Reverse Voltage Leakage Current $V_R=50\text{V}$ MMBD2836/MMBD2838 MMBD7000	I_R	-	0.1 1.0	μAdc
$V_R=100\text{V}$ MMBD7000			3.0	
$V_R=50\text{V}, T_J=125^\circ\text{C}$ MMBD7000			100	

Off Characteristic

Characteristic	Symbol	Min	Max	Unit
Diode Capacitance MMBD2836/MMBD2838 ($V_R=0, f=1.0\text{MHz}$) MMBD7000	C_D		4.0 1.5	PF
Forward Voltage ($I_F=1.0\text{ mAdc}$) MMBD7000 ($I_F=10\text{ mAdc}$) MMBD2836/MMBD2838 MMBD7000 ($I_F=50\text{ mAdc}$) MMBD2836/MMBD2838 ($I_F=100\text{ mAdc}$) MMBD2836/MMBD2838 MMBD7000	V_F		700 1000 820 1000 1200 1100	mVdc
Reverse Recovery Time (Figure 1.) $I_F=I_R=10\text{ mAdc}, V_R=5.0\text{Vdc}$ $I_R(\text{REC})=1.0\text{ mAdc}, R_L=100$	t_{rr}		4.0	nS

Device Marking

Item	Marking	Equivalent Circuit diagram
MMBD2838	A6	
MMBD2836	A2	
MMBD7000	M5C	

Figure 1. Recovery Time Equivalent Test Circuit

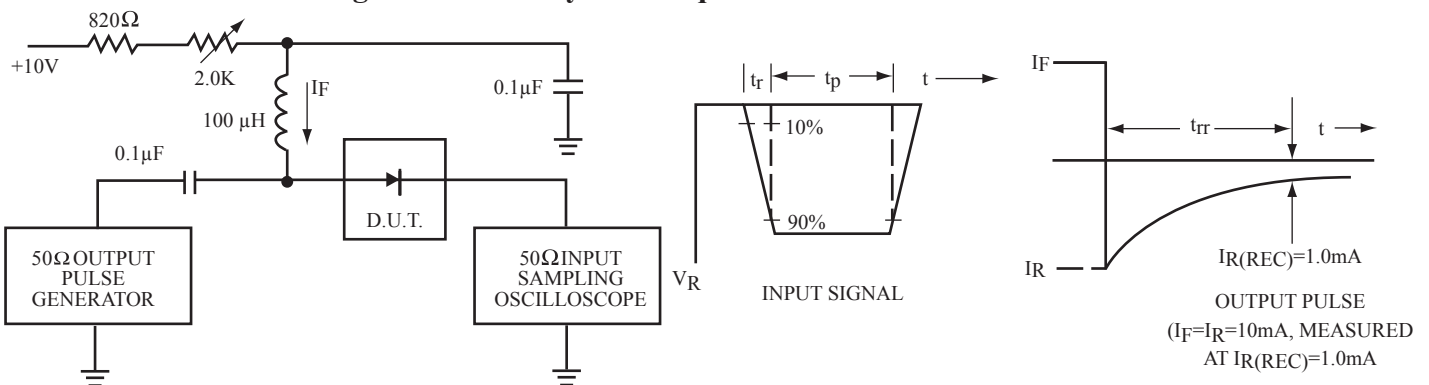


FIGURE 2. FORWARD VOLTAGE

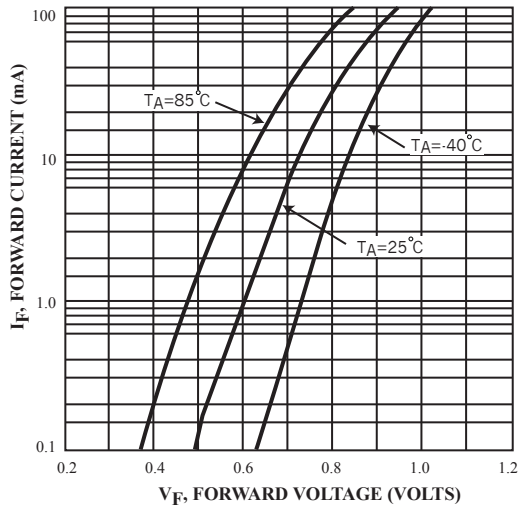


FIGURE 3. LEAKAGE CURRENT

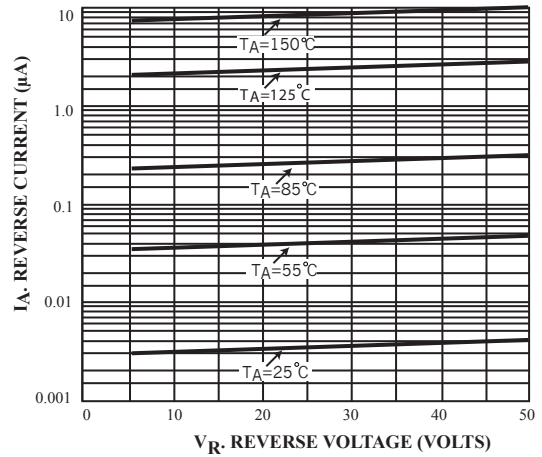


FIGURE 4. CAPACITANCE(2836)

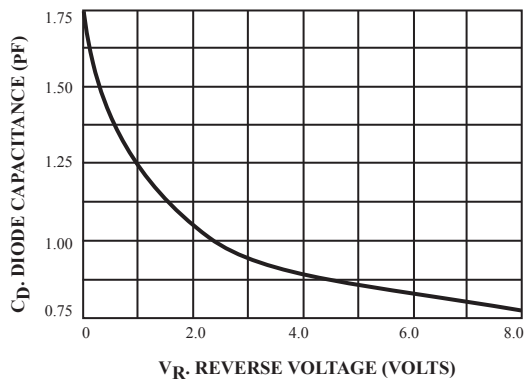


FIGURE 5. CAPACITANCE(2838)

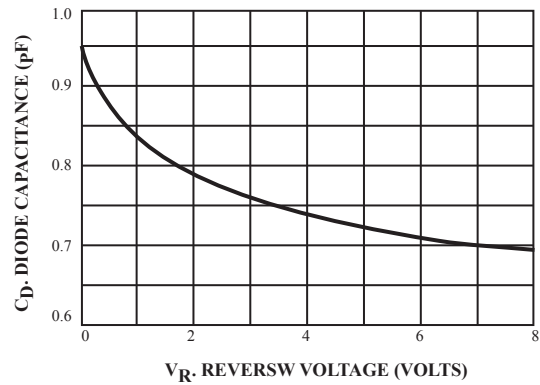


FIGURE 6. CAPACITANCE(7000)

