

FEATURE

- We declare that the material of product compliance with RoHS requirements.
- Moisture Sensitivity Level 1

ORDERING INFORMATION

Device	Marking	Shipping
MMBD7000W	M5C	3000/Tape & Reel

Pb-Free package is available

RoHS product for packing code suffix "G"

Halogen free product for packing code suffix "H"

MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	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 ⁽¹⁾ $T_A = 25^\circ\text{C}$	P_D	200	mW
Derate above 25°C		1.6	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$	P_D	300	mW
Derate above 25°C		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Operating/Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

DEVICEMARKING

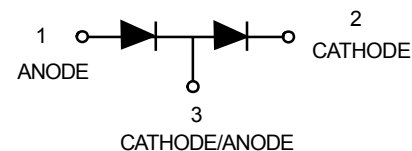
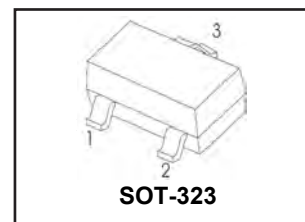
MMBD7000W=M5C

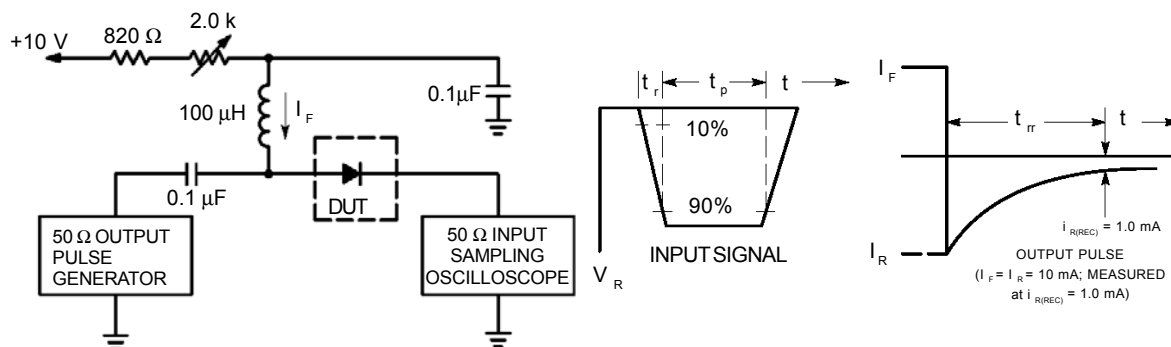
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)(EACH DIODE)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{Adc}$)	$V_{(BR)}$	100	—	Vdc
Reverse Voltage Leakage Current ($V_R = 50 \text{ Vdc}$)	I_R	—	1.0	μAdc
($V_R = 100 \text{ Vdc}$)	I_{R2}	—	3.0	
($V_R = 50 \text{ Vdc}, 125^\circ\text{C}$)	I_{R3}	—	100	
Forward Voltage ($I_F = 1.0 \text{ mAdc}$)	V_F	0.55	0.7	Vdc
($I_F = 10 \text{ mAdc}$)		0.67	0.82	
($I_F = 100 \text{ mAdc}$)		0.75	1.1	
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$) (Figure 1)	t_{rr}	—	4.0	ns
Capacitance($V_R=0\text{V}$)	C	—	1.5	pF

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.

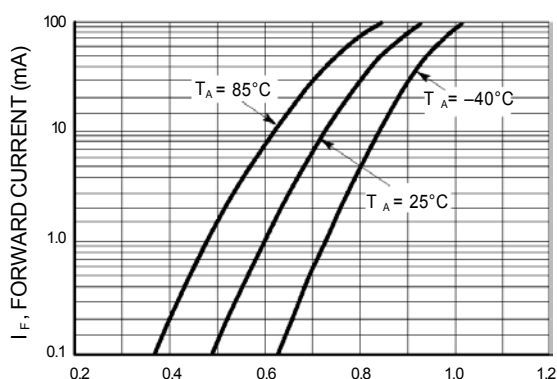




- Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 10mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10mA.
 3. $t_p \gg t_{rr}$

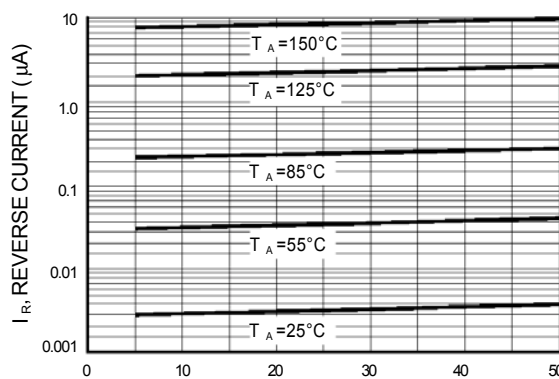
Figure 1. Recovery Time Equivalent Test Circuit

CURVES APPLICABLE TO EACH CATHODE



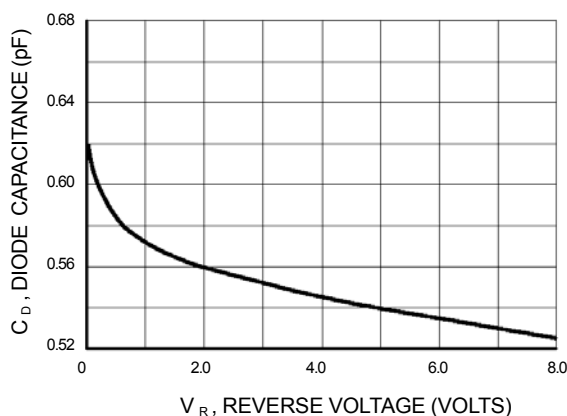
V_F , FORWARD VOLTAGE (VOLTS)

Figure 2. Forward Voltage



V_R , REVERSE VOLTAGE (VOLTS)

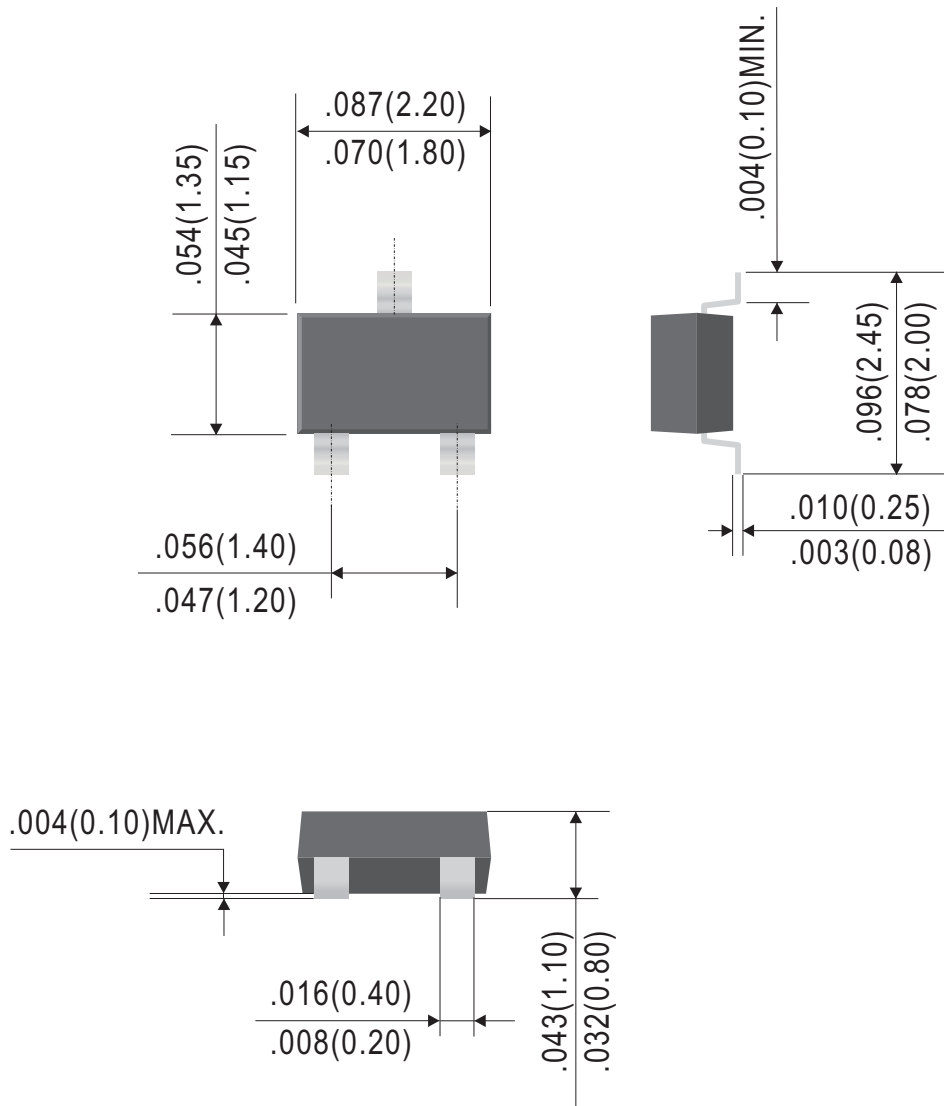
Figure 3. Leakage Current



V_R , REVERSE VOLTAGE (VOLTS)

Figure 4. Capacitance

SOT-323



Dimensions in inches and (millimeters)

Ordering Information:

Device PN	Packing
MMBD7000W-T ⁽¹⁾ G ⁽²⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape&Reel

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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