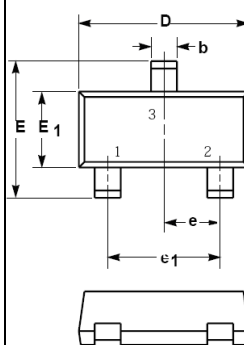


**SURFACE MOUNT
FAST SWITCHING DIODE**
**REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 0.2 Ampere**
FEATURES

- Fast Switching Speed
- Ideally suited for automatic insertion
- For general purpose switching applications

MECHANICAL DATA

- Case: SOT-23 Plastic
- Case Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

SOT-23


SOT-23		
Dim.	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	2.25	2.55
E1	1.20	1.40
e	0.95 Typ.	
e1	1.80	2.00
L	0.55 Ref.	
L1	0.30	0.50
Dimensions in millimeter		

Maximum Ratings & Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

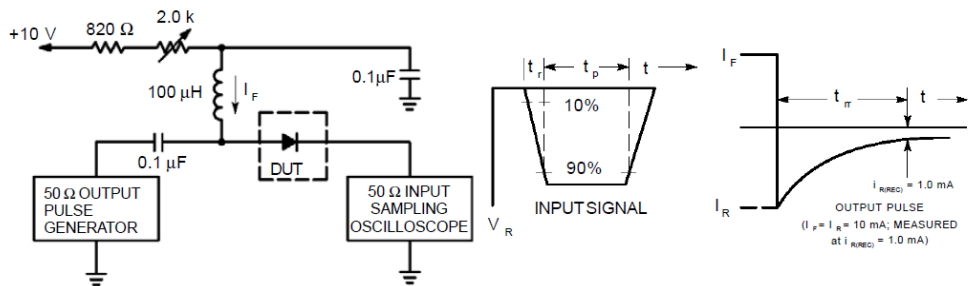
Characteristic	Symbol	MMBD7000	Units
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Forward Current	I_F	200	mA
Peak Forward Surge Current	I_{FM}	500	mA
Power Dissipation 1)	P_D	225	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Test Condition	Symbol	MMBD7000	Unit
Reverse Breakdown Voltage	$I_R = 100\mu\text{A}$	V_{BR}	100	V
Maximum Forward Voltage	$I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 100\text{mA}$	V_F	0.7 0.82 1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$V_R = 50\text{V}$ $V_R = 100\text{V}$ $V_R = 50\text{V}, 125^\circ\text{C}$	I_R	1 3 100	μA
Typical Diode Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_D	1.5	pF
Reverse Recovery time	$I_F = I_R = 10\text{mA}$	t_{rr}	4	nS

Note: 1) FR-5 = 1.0 x 0.75 x 0.062 in.

REV. 1, Mar-2014, KSYR92



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

Recovery Time Equivalent Test Circuit

Fig.1 Typical Forward Characteristics

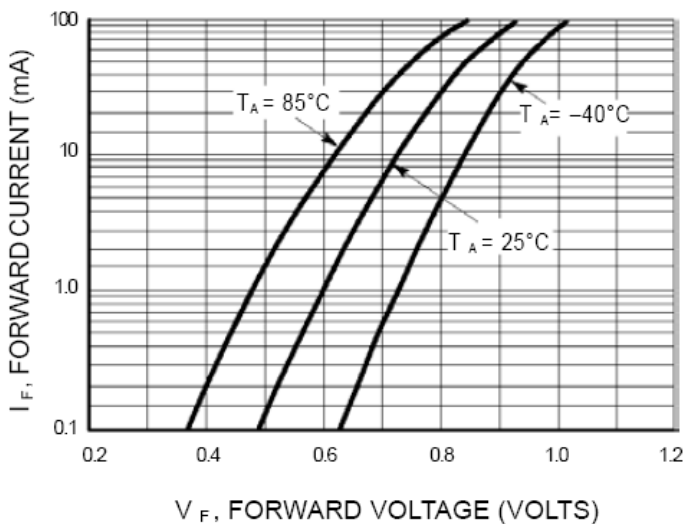


Fig.2 Typical Reverse Characteristics

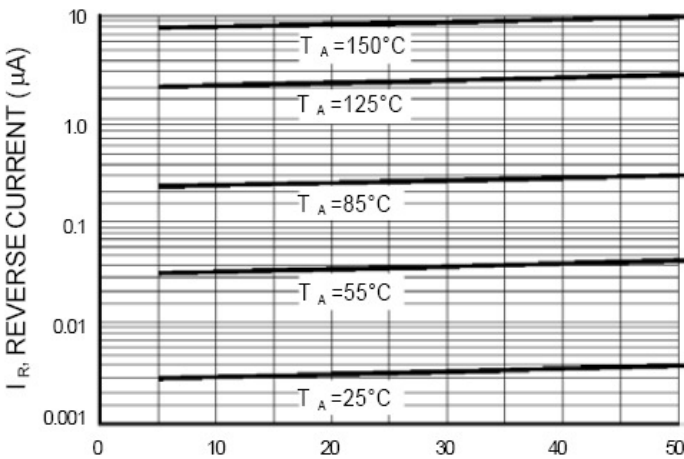
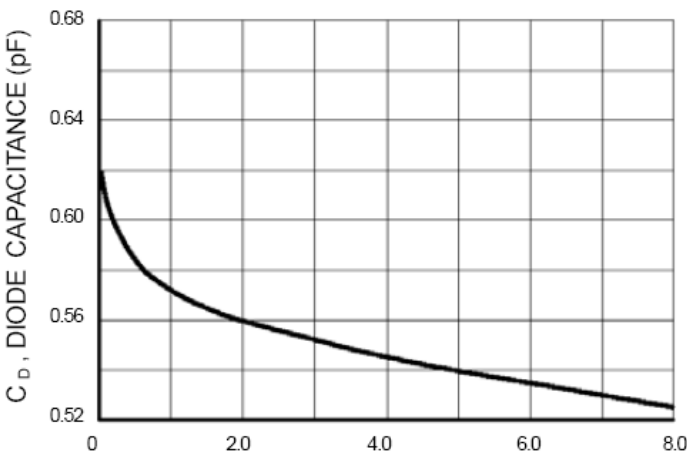


Fig.3 Typical Capacitance Characteristics



Device Marking:

Device P/N	Marking	Equivalent Circuit Diagram
MMBD7000	M5C	

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New Marking Rule Notification

Range: In order to have well management in process control, the new marking rule is applied to small signal device including Switching Diode, Transistor and Schottky Diode.

Package: SOT-23 / SOT-323 / SOT-523

