LITE-ON SEMICONDUCTORS

MMBD7000

SURFACE MOUNT
FAST SWITCHING DIODE

REVERSE VOLTAGE – 100 Volts
FORWARD CURRENT – 0.2 Ampere

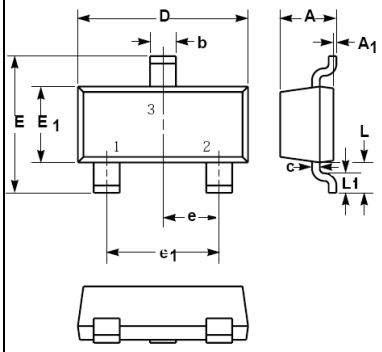
FEATURES

- 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℃ unless otherwise specified

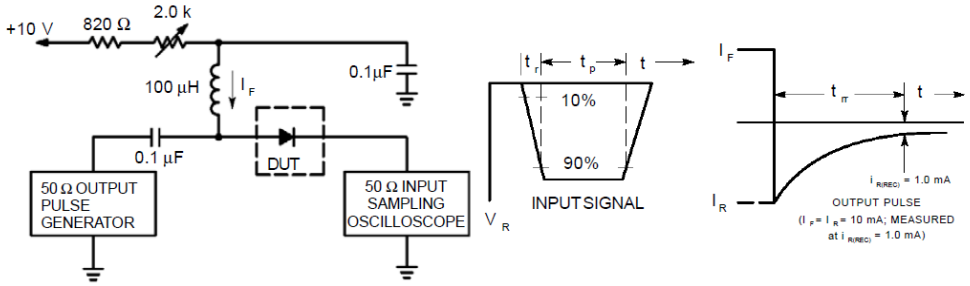
Characteristic	Symbol	MMBD7000	Units
Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
Forward Current	I_F	200	mA
Peak Forward Surge Current	I_{FM}	500	mA
Power Dissipation 1)	P_D	225	mW
Thermal Resistance Junction to Ambient	$R_{\Theta JA}$	417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

Electrical Characteristics @ T_A = 25℃ unless otherwise specified

Characteristic	Test Condition	Symbol	MMBD7000	Unit
Reverse Breakdown Voltage	I_R = 100uA	V_{BR}	100	V
Maximum Forward Voltage	I_F = 1mA I_F = 10mA I_F = 100mA	V_F	0.7 0.82 1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	V_R = 50V V_R = 100V V_R = 50V, 125℃	I_R	1 3 100	uA
Typical Diode Capacitance	V_R =0V,f=1MHz	C_D	1.5	pF
Reverse Recovery time	I_F=I_R=10mA,	trr	4	nS

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

RATING AND CHARACTERISTIC CURVES
MMBD7000



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. $t_p \gg t_{rr}$

Recovery Time Equivalent Test Circuit

Fig.1 Typical Forward Characteristics

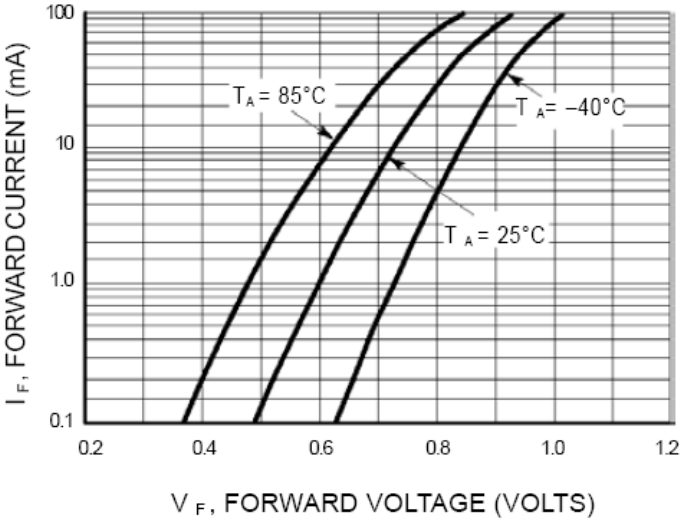


Fig.2 Typical Reverse Characteristics

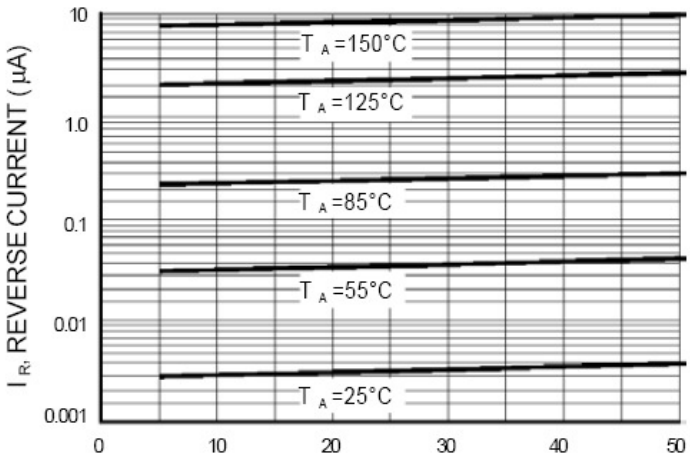
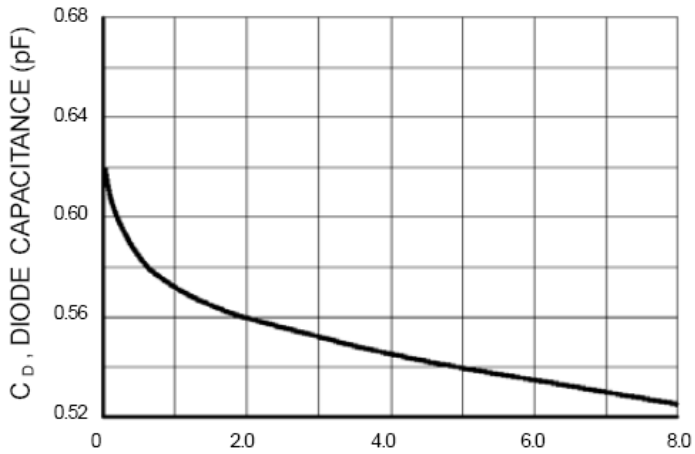
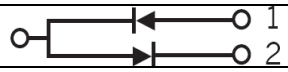


Fig.3 Typical Capacitance Characteristics



Device Marking:

Device P/N	Marking	Equivalent Circuit Diagram
MMBD7000	M5C	

Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

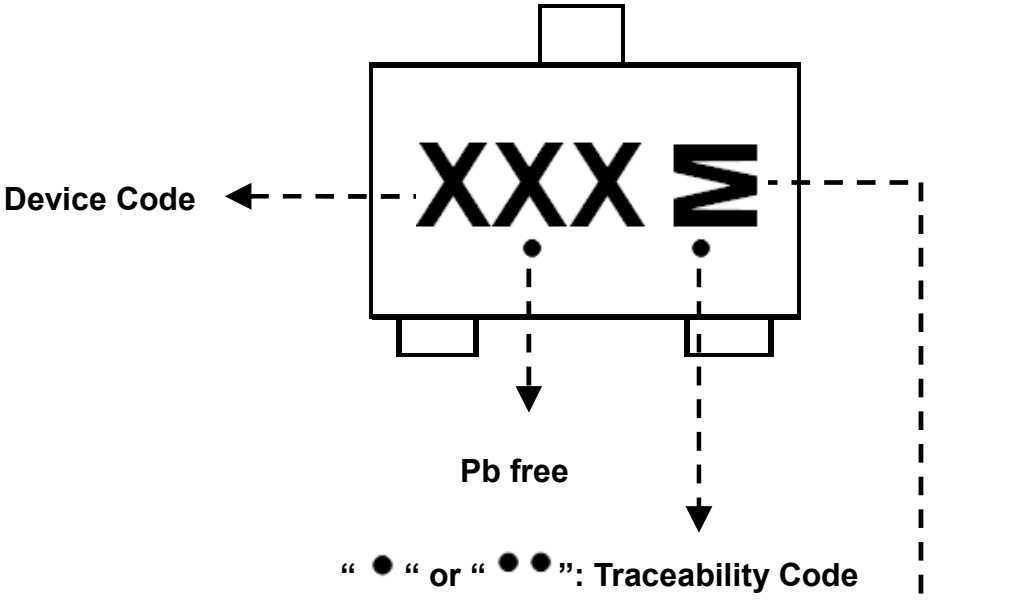
No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.

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



Odd Year	Even Year
1	E
2	F
3	H
4	J
5	K
6	L
7	N
8	P
9	U
T	X
V	Y
C	Z