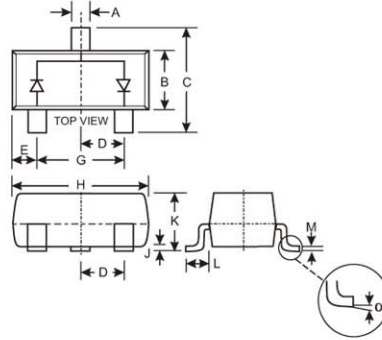


## ● Features

Fast Switching Speed  
 Surface Mount Package Ideally Suited for Automatic Insertion  
 For General Purpose Switching Applications  
 High Conductance

## ● Mechanical Data

Case: SOT-23, Molded Plastic  
 Case material - UL Flammability Rating Classification 94V-0  
 Moisture sensitivity: Level 1 per J-STD-020A  
 Terminals: Solderable per MIL-STD-202, Method 208  
 Polarity: See Diagram  
 Marking: KJH (See Page 2)  
 Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.85	0.80
$\alpha$	0°	8°
All Dimensions in mm		

## ● Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	MMBD7000	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	75	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 1)	$I_{FM}$	300	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$	$I_{FSM}$	2.0 1.0	A
Power Dissipation (Note 1)	$P_d$	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	75	—	V	$I_R = 100\mu\text{A}$
Forward Voltage (Note 2)	$V_F$	0.55 0.67 0.75	0.70 0.82 1.10 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Reverse Current (Note 2)	$I_R$	—	1.0 3.0 100 25	$\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$ nA	$V_R = 50\text{V}$ $V_R = 100\text{V}$ $V_R = 50\text{V}, T_J = 125^\circ\text{C}$ $V_R = 20\text{V}$
Total Capacitance	$C_T$	—	2.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA}$ , $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 1. Part mounted on FR-4 board with recommended pad layout.  
 2. Short duration test pulse used to minimize self-heating effect.

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 CONSCIOUS PRODUCTS BEGIN WITH CONSCIOUS PEOPLE



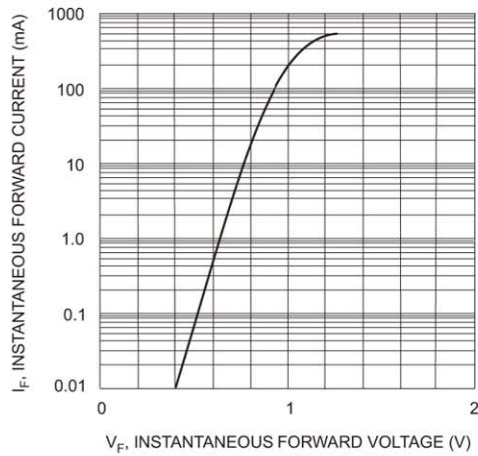


Fig. 1 Forward Characteristics

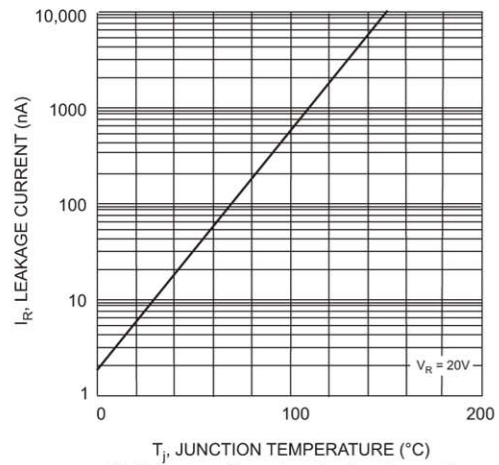


Fig. 2 Leakage Current vs Junction Temperature

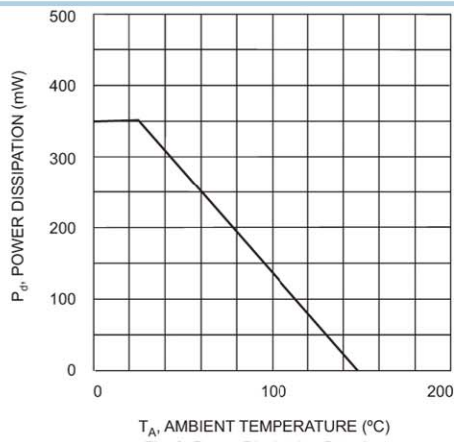


Fig. 3 Power Dissipation Derating

### Ordering Information (Note 3)

Device	Packaging	Shipping
MMBD7000	SOT-23	3000/Tape & Reel

