MMBD2004S

SURFACE MOUNT SWITCHING DIODE

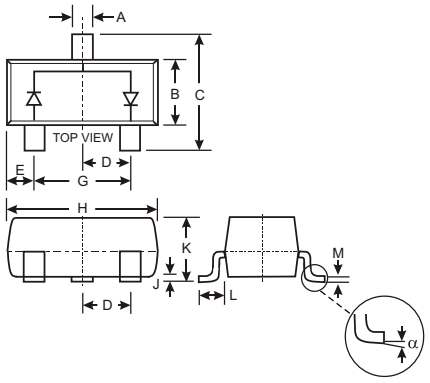
NEW PRODUCT

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 RatingClassification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: KA9 (See Page 2)
- Weight: 0.008 grams (approx.)
- Ordering Information, see Sheet 2



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
	0	8
All Dimensions in mm		

Maximum Ratings @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	MMBD2004S	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	300	V
Working Peak Reverse Voltage DC Blocking Voltage	V_{RWM} V_R	240	V
RMS Reverse Voltage	$V_{R(RMS)}$	170	V
Forward Continuous Current (Note 2)	I_{FM}	225	mA
Peak Repetitive Forward Current (Note 2)	I_{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0 s @ t = 1.0s	I_{FSM}	4.0 1.0	A
Power Dissipation (Note 2)	P_d	350	mW
Thermal Resistance Junction to Ambient Air (Note 2)	R_{JA}	357	C/W
Operating and Storage Temperature Range	T_j , T_{STG}	-65 to +150	C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	300		V	I_R = 100 A
Forward Voltage (Note 1)	V_F		0.87 1.0	V	I_F = 20mA I_F = 100mA
Reverse Current (Note 1)	I_R		100	nA A	V_R = 240V V_R = 240V, T_j = 150 C
Total Capacitance	C_T		5.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}		50	ns	I_F = I_R = 30mA, I_{rr} = 3.0mA, R_L = 100

Notes: 1. Short duration test pulse used to minimize self-heating effect.
2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

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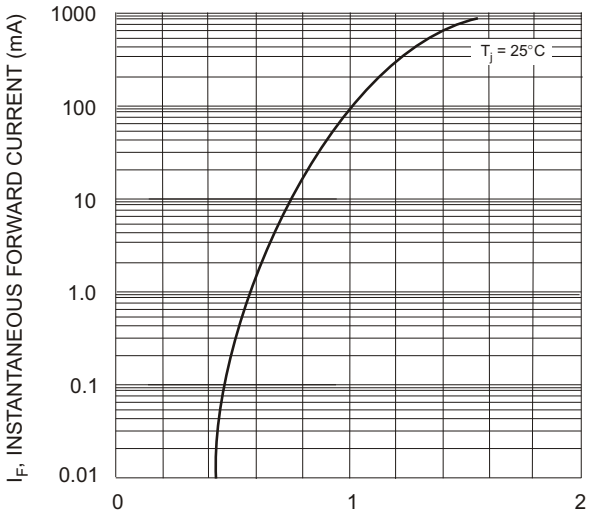


Fig. 1 Forward Characteristics

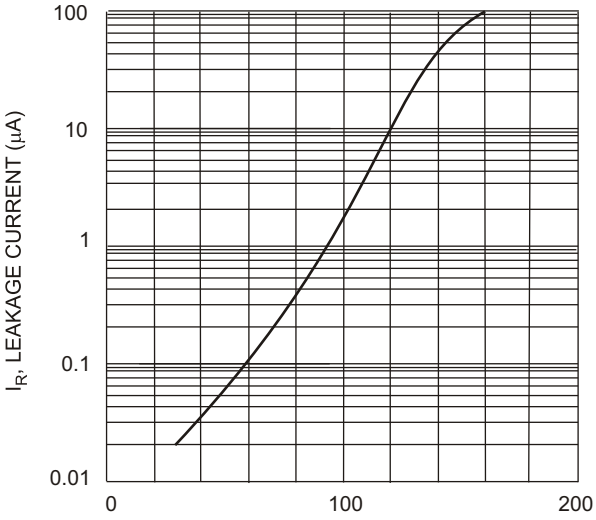


Fig. 2 Leakage Current vs Junction Temperature

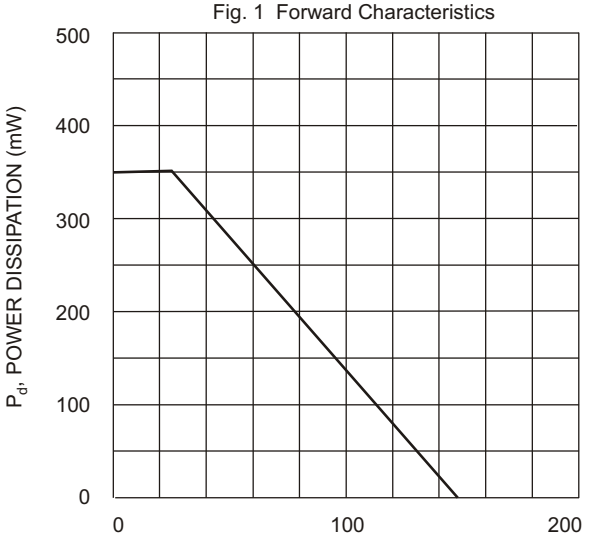


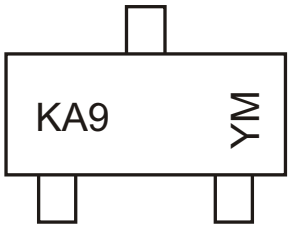
Fig. 3 Power Dissipation Derating

Ordering Information (Note 3)

Device	Packaging	Shipping
MMBD2004S-7	SOT-23	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



KA9 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

Year	2001	2002	2003	2004	2005	2006
Code	M	N	P	R	S	T

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D