



MMBD3004S

HIGH VOLTAGE SURFACE MOUNT SWITCHING DIODE

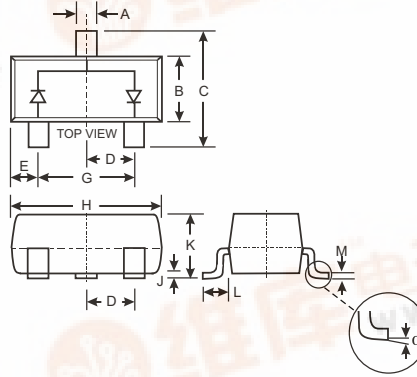
NEW PRODUCT

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- High Conductance
- High Reverse Breakdown Voltage Rating

Mechanical Data

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



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	MMBD3004S	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	350	V
Working Peak Reverse Voltage DC Blocking Voltage	V _{RWM} V _R	300	V
RMS Reverse Voltage	V _{R(RMS)}	212	V
Forward Continuous Current (Note 2)	I _F	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, per element

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	350			V	I _R = 100 A
Forward Voltage (Note 1)	V _F		0.78 0.93 1.03	0.87 1.0 1.25	V	I _F = 20mA I _F = 100mA I _F = 200mA
Reverse Current (Note 1)	I _R		30 35	100 100	nA A	V _R = 240V V _R = 240V, T _j = 150 C
Total Capacitance	C _T		1.0	5.0	pF	V _R = 0V, f = 1.0MHz
Reverse Recovery Time	t _{rr}			50	ns	I _F = I _R = 30mA, I _{rr} = 3.0mA, R _L = 100

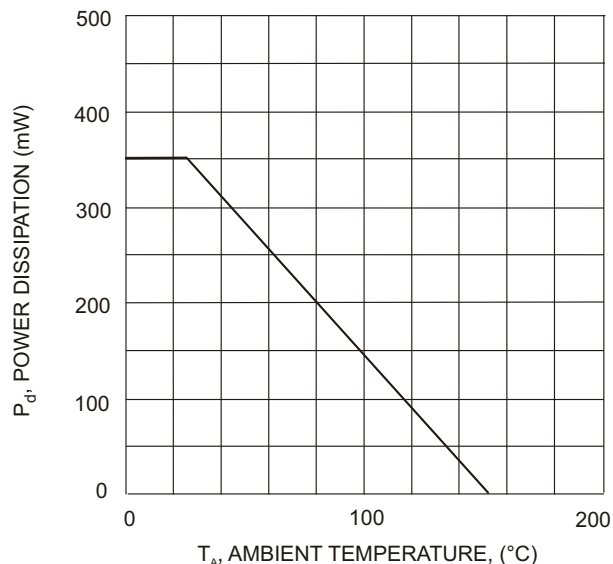
- Notes:
- Short duration test pulse used to minimize self-heating effect.
 - Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

Ordering Information (Note 3)

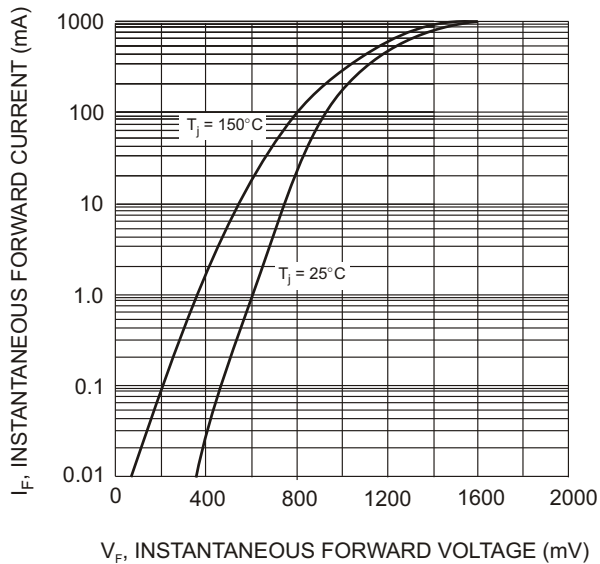
Device	Packaging	Shipping
MMBD3004S-7	SOT-23	3000/Tape & Reel

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

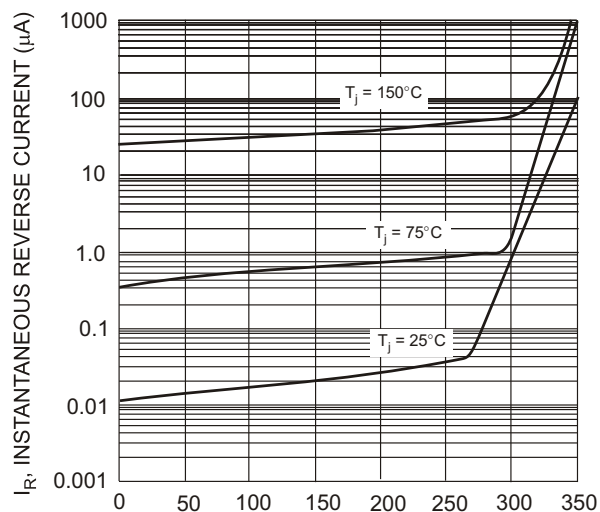




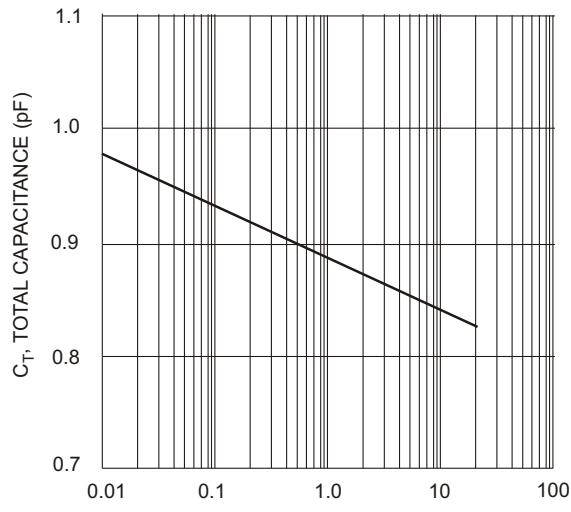
T_A , AMBIENT TEMPERATURE, ($^{\circ}C$)
Fig. 1 Power Derating Curve, total package



V_F , INSTANTANEOUS FORWARD VOLTAGE (mV)
Fig. 2 Typical Forward Characteristics, per element

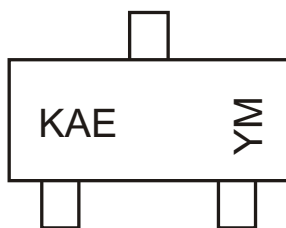


V_R , INSTANTANEOUS REVERSE VOLTAGE (V)
Fig. 3 Typical Reverse Characteristics, per element



V_R , REVERSE VOLTAGE (V)
Fig. 4 Typical Total Capacitance vs. Reverse Voltage, per element

Marking Information



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

Date Code Key

Year	2002	2003	2004	2005	2006	2007
Code	N	P	R	S	T	U

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