SEMICONDUCTOR

DATA SHEET

MMBD3004A/C

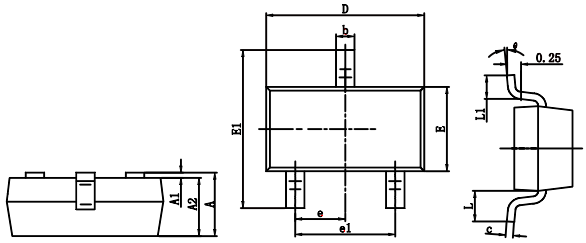
Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- High Conductance
- High Reverse Breakdown Voltage Rating
- **Lead Free/RoHS Compliant (Note 3)**

Mechanical Data

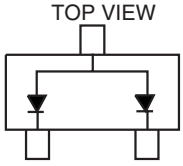
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking: See Diagrams Below and Page 2
- Ordering Information: See below
- Weight: 0.008 grams (approx.)

SOT23 Unit:inch(mm)

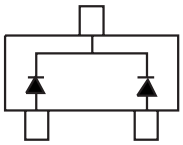


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	6°

TOP VIEW



MMBD3004A Marking: KAD



MMBD3004C Marking: KAC

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	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 = 1.0μs @ 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)	$R_{\theta JA}$	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 = 150μA
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 μA	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 = 100Ω

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.
3. No purposefully added lead.

DEVICE CHARACTERISTICS

MMBD3004A/C

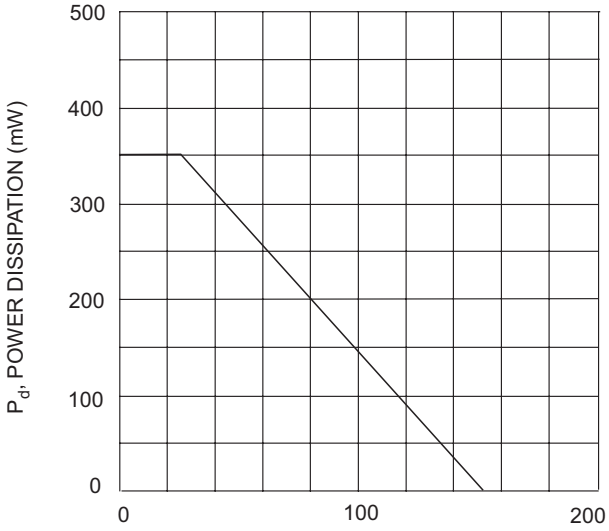


Fig. 1 Power Derating Curve, total package

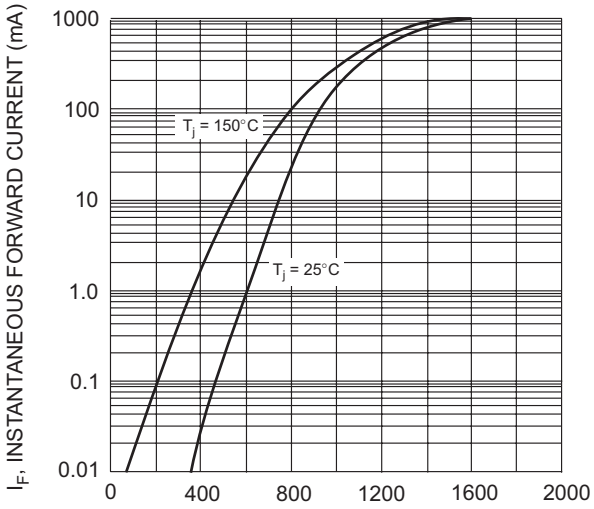


Fig. 2 Typical Forward Characteristics, per element

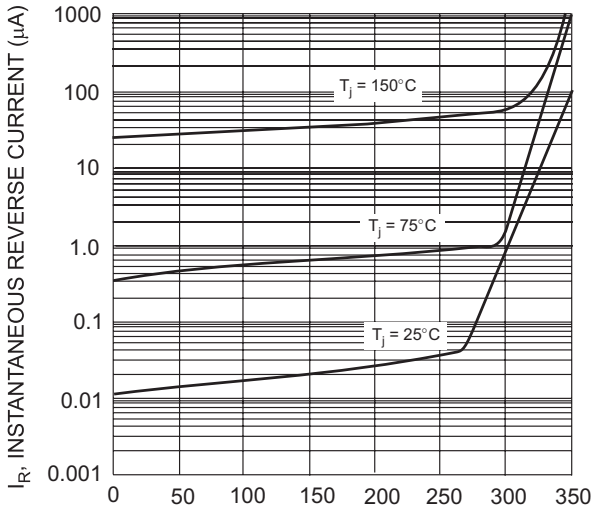


Fig. 3 Typical Reverse Characteristics, per element

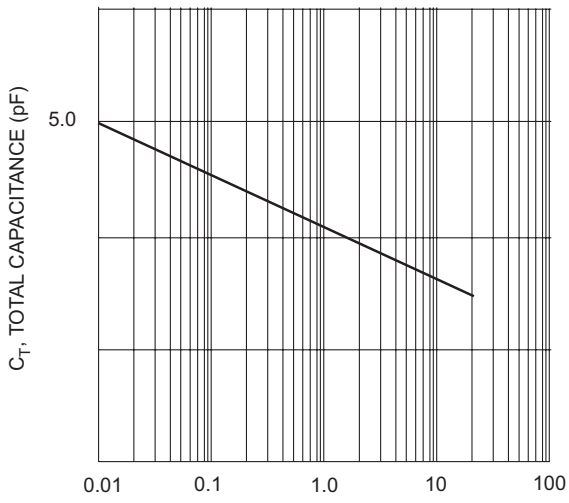


Fig. 4 Typical Total Capacitance vs. Reverse Voltage, per element