

Surface Mount Switching Diode

(Pb) Lead(Pb)-Free

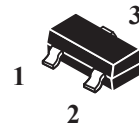
Features:

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

Mechanical Data:

- *Case: SOT-23 Molded Plastic
- *Terminals: Solderable Per MIL-STD-202, Method 208
- *Polarity: See Equivalent Circuit Diagram
- *Weight: 0.008grams(approx)

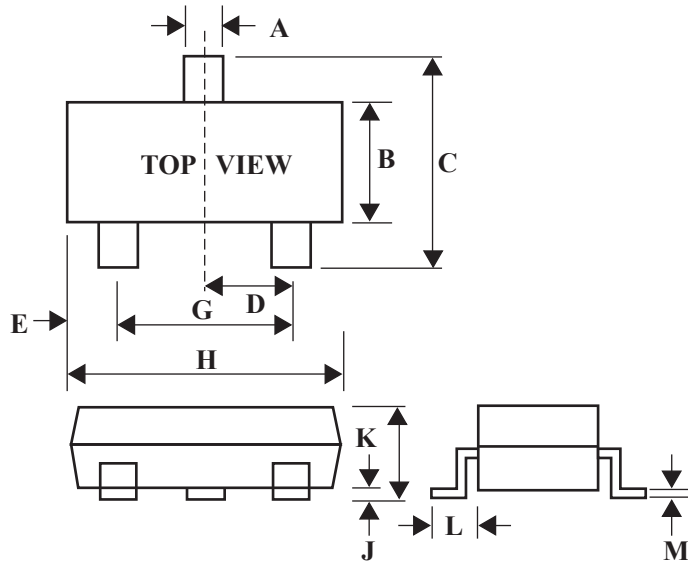
SWITCHING DIODE
225mAMPERS
300VOLTS



SOT-23

SOT-23 Outline Dimensions

Unit:mm



| Dim | Min | Max |
|-----|-------|------|
| A | 0.35 | 0.51 |
| B | 1.19 | 1.40 |
| C | 2.10 | 3.00 |
| D | 0.85 | 1.05 |
| E | 0.46 | 1.00 |
| G | 1.70 | 2.10 |
| H | 2.70 | 3.10 |
| J | 0.01 | 0.13 |
| K | 0.89 | 1.10 |
| L | 0.30 | 0.61 |
| M | 0.076 | 0.25 |


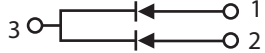
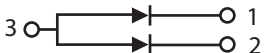
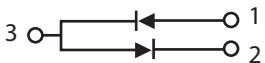
Maximum Ratings ($T_A=25\text{ }^{\circ}\text{C}$ Unless otherwise noted)

| Characteristic | Symbol | MMBD2004/C/A/S | Unit |
|---|----------------|----------------|--------------------|
| Working Peak Reverse Voltage | V_{RRM} | 300 | Volts |
| Peak Repetitive Reverse Voltage | V_{RWM} | 240 | Volts |
| DC Blocking Voltage | V_R | | |
| Forward Continuous Current | I_F | 225 | mA |
| Repetitive Peak Forward Current | I_{FRM} | 625 | mA |
| Non-Repetitive Peak Forward Surge Current @ $t=1.0\mu\text{s}$ @ $t=1.0\text{s}$ | I_{FSM} | 4.0 1.0 | A |
| Power Dissipation | P_d | 350 | mW |
| Thermal Resistance Junction to Ambient Air | R_{qJA} | 357 | K/W |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | $^{\circ}\text{C}$ |

Electrical Characteristics ($T_A=25\text{ }^{\circ}\text{C}$ Unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|--|-------------|-----|-----|------------------|
| Reverse Breakdown Voltage $I_R=100\mu\text{A}$ | $V_{(BR)R}$ | 300 | - | Volts |
| Forward Voltage $I_F=100\text{mA}$ | V_F | - | 1.0 | Volts |
| Reverse Leakage @Rated DC Blocking Voltage | I_R | - | 100 | nA _{dc} |
| Total Capacitance ($V_R=0\text{V}$, $f=1.0\text{MHz}$) | C_j | - | 5.0 | Pf |
| Reverse Recovery Time $I_F=I_R=30\text{mA}$ $I_{rr}=3.0\text{mA}$, $I_R, R_L=100\text{ }\Omega$ | t_{rr} | | 50 | nS |

Device Marking

| Item | Marking | Equivalent Circuit diagram |
|-----------|---------|---|
| MMBD2004 | DB3 |  |
| MMBD2004C | DB4 |  |
| MMBD2004A | DB5 |  |
| MMBD2004S | DB6 |  |

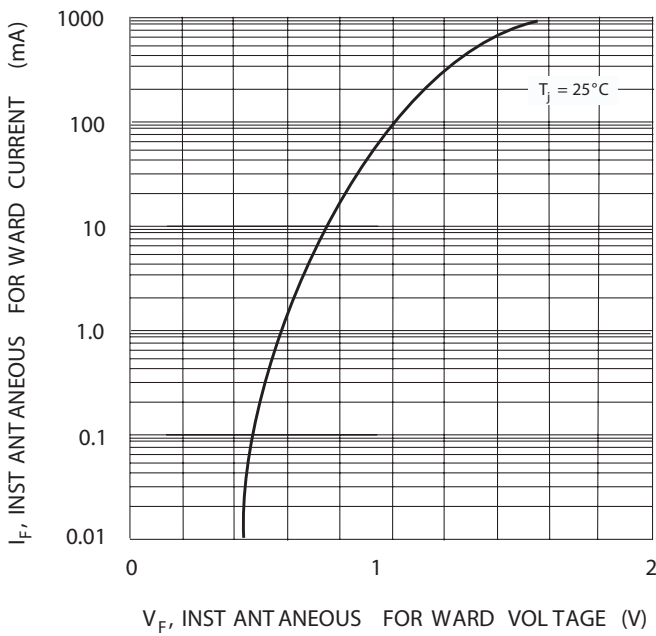


Fig. 1 Forward Characteristics

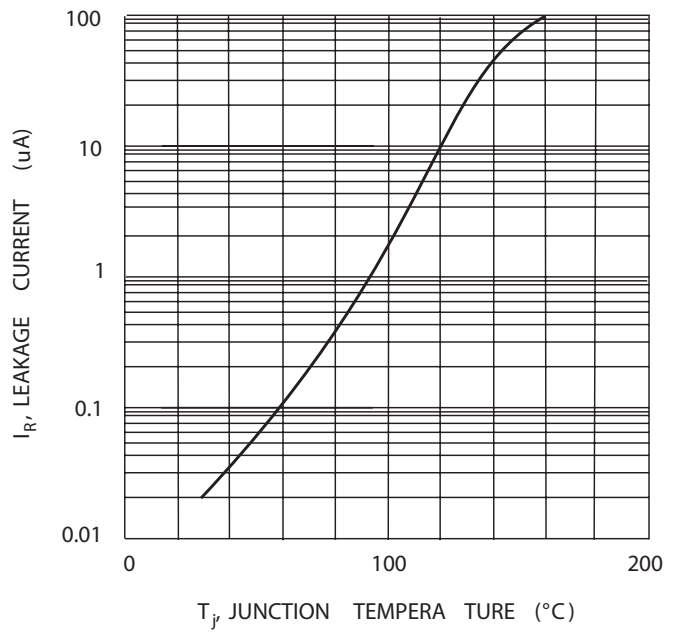


Fig. 2 Leakage Current vs Junction Temperature