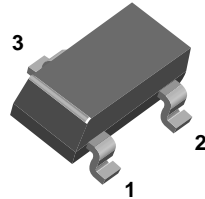
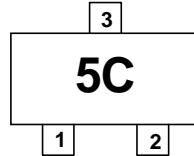


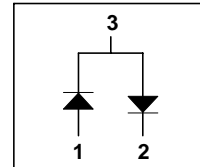
# MMBD7000



SOT-23



Connection Diagram



## Small signal Diode

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol      | Parameter  | Value       | Units            |
|-------------|--|-------------|------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage   | 100         | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current  | 200         | mA               |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>Pulse Width = 1.0 second<br>Pulse Width = 1.0 microsecond | 1.0         | A                |
|             |  | 2.0         | A                |
| $T_{stg}$   | Storage Temperature Range  | -55 to +150 | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature   | 150         | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

| Symbol          | Parameter                               | Value | Units                     |
|-----------------|---|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 350   | mW                        |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357   | $^\circ\text{C}/\text{W}$ |

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol   | Parameter             | Test Conditions  | Min  | Max | Units         |
|----------|-----------------------|--|------|-----|---------------|
| $V_R$    | Breakdown Voltage     | $I_R = 100 \mu\text{A}$  | 100  |     | V             |
| $V_F$    | Forward Voltage       | $I_F = 1.0 \text{ mA}$   | 550  | 700 | mV            |
|          |                       | $I_F = 10 \text{ mA}$  | 670  | 820 | mV            |
|          |                       | $I_F = 100 \text{ mA}$   | 0.75 | 1.1 | V             |
| $I_R$    | Reverse Current       | $V_R = 100 \text{ V}$  |      | 500 | nA            |
|          |                       | $V_R = 50 \text{ V}$   |      | 300 | nA            |
|          |                       | $V_R = 50 \text{ V}, T_A = 125^\circ\text{C}$                          |      | 100 | $\mu\text{A}$ |
| $C_T$    | Total Capacitance     | $V_R = 0, f = 1.0 \text{ MHz}$   |      | 1.5 | pF            |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R = 10 \text{ mA}, I_{RR} = 1.0 \text{ mA}, R_L = 100 \Omega$ |      | 4.0 | ns            |

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