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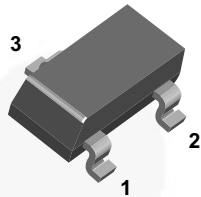
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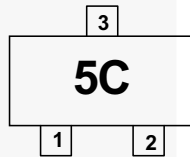
February 2015



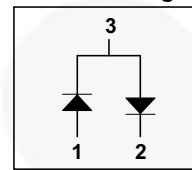
# MMBD7000 Small Signal Diode



SOT-23



Connection Diagram



## Ordering Information

| Part Number | Top Mark | Package   | Packing Method |
|-------------|----------|-----------|----------------|
| MMBD7000    | 5C       | SOT-23 3L | Tape and Reel  |

## Absolute Maximum Ratings<sup>(1), (2)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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

### Notes:

1. These ratings are based on a maximum junction temperature of  $150^\circ\text{C}$ .
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol   | Parameter             | Conditions   | Min. | Max. | Unit          |
|----------|-----------------------|--|------|------|---------------|
| $V_R$    | 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            |

Physical Dimensions

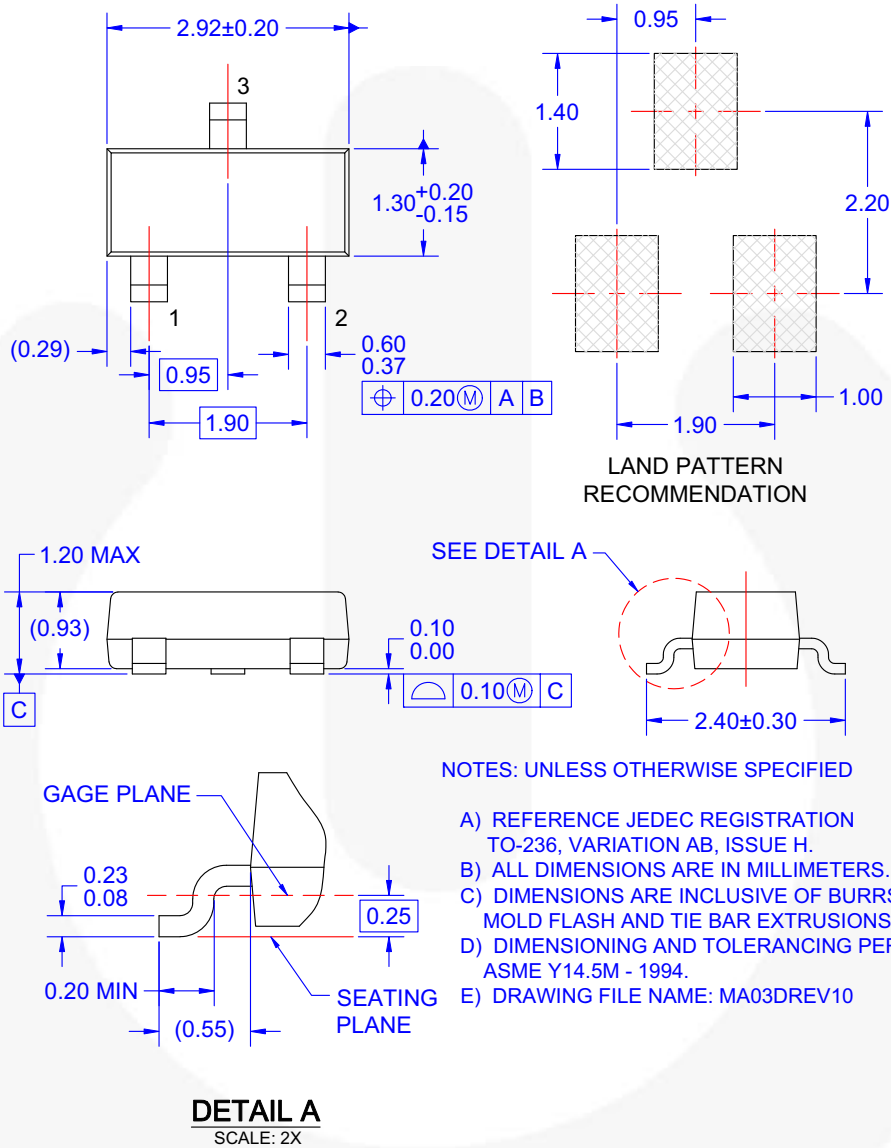







Figure 1. 3-LEAD, SOT23, JEDEC TO-236, LOW PROFILE



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