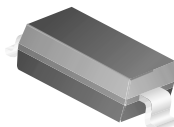


# MMSD3070

## Small Signal Diode



**SOD123**  
COLOR BAND DENOTES CATHODE  
TOP MARKING: 33

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter                                 | Value       | Units            |
|-------------|---|-------------|------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage        | 200         | 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         | A                |
|             | Pulse Width = 1.0 microsecond             | 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.

### Thermal Characteristics

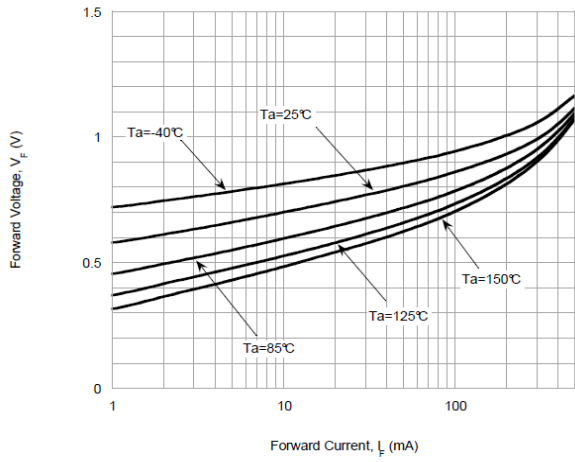
| Symbol          | Parameter                               | Value | Units                     |
|-----------------|---|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 400   | mW                        |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 312   | $^\circ\text{C}/\text{W}$ |

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

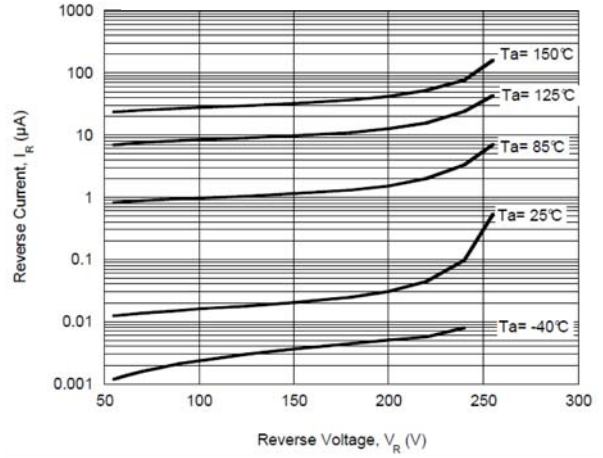
| Symbol   | Parameter             | Conditions   | Min. | Max. | Units         |
|----------|-----------------------|--|------|------|---------------|
| $V_R$    | Breakdown Voltage     | $I_R = 100\mu\text{A}$   | 200  |      | V             |
| $V_F$    | Forward Voltage       | $I_F = 100\text{mA}$   |      | 1.0  | V             |
| $I_R$    | Reverse Leakage       | $V_R = 175\text{V}$  |      | 100  | nA            |
|          |                       | $V_R = 175\text{V}, T_A = 150^\circ\text{C}$                           |      | 100  | $\mu\text{A}$ |
| $C_T$    | Total Capacitance     | $V_R = 0, f = 1.0\text{MHz}$   |      | 5.0  | pF            |
| $t_{rr}$ | Reverse Recovery Time | $I_F = I_R = 30\text{mA},$<br>$I_{RR} = 1.0\text{mA}, R_L = 100\Omega$ |      | 50   | ns            |

## Typical Performance Characteristics

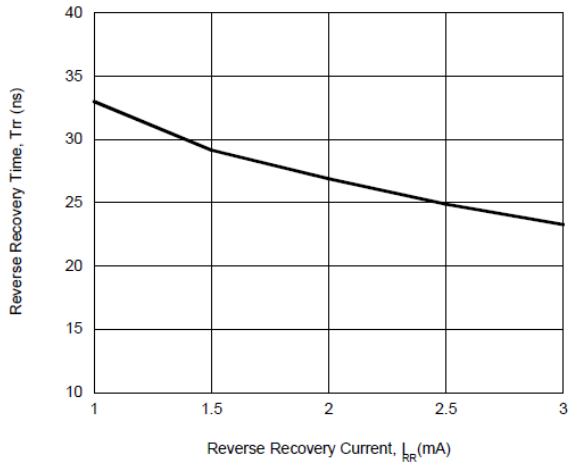
**Figure 1. Forward Voltage vs Forward Current**



**Figure 2. Reverse Current vs Reverse Voltage**



**Figure 3. Reverse Recovery Time vs Reverse Recovery Current**





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