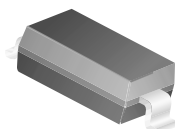


# MMSD3070

## 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 | 1.0         | A                |
|             | Pulse Width = 1.0 second                  | 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   | $^\circ\text{C/W}$ |

### 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

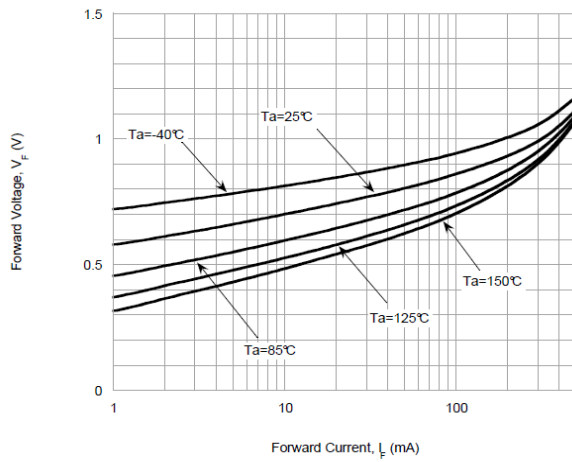


Figure 2. Reverse Current vs Reverse Voltage

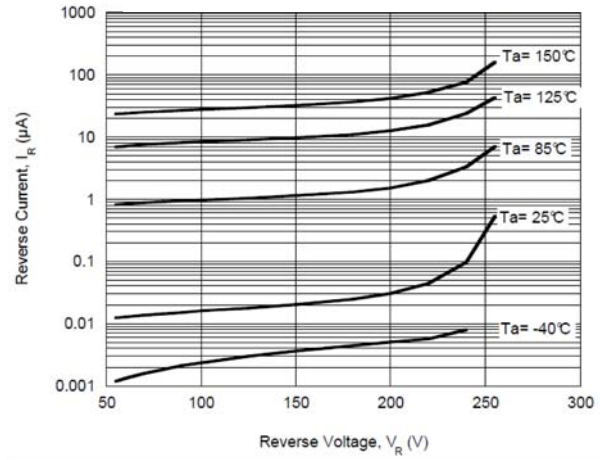
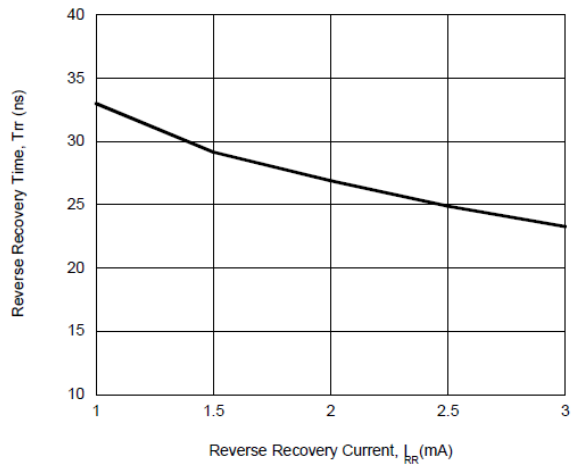


Figure 3. Reverse Recovery Time vs Reverse Recovery Current





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| Auto-SPM™                                                                           | FRFET®                                                                              | PowerTrench®                                                                        | GENERAL                                                                                     |
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| FETBench™                                                                           |  ® | SyncFET™                                                                            | UniFET™                                                                                     |
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Rev. 150