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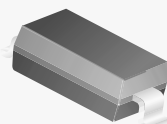
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January 2016

# MMSD4148

## Small Signal Diode



**SOD123**  
Color Band Denotes Cathode  
Top Marking: 5H

### Ordering Information

| Part Number   | Top Mark | Package    | Packing Method                         |
|---------------|----------|------------|--|
| MMSD4148      | 5H       | SOD-123 2L | Tape and Reel, 7 inch Reel, 3000 pcs   |
| MMSD4148_D87Z | 5H       | SOD-123 2L | Tape and Reel, 13 inch Reel, 10000 pcs |

### Absolute Maximum Ratings

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                           | $^\circ\text{C}$ |

### Thermal Characteristics

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

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

### Electrical Characteristics

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

| Symbol   | Parameter             | Conditions  | Min. | Max. | Unit          |
|----------|-----------------------|---|------|------|---------------|
| $V_R$    | Breakdown Voltage     | $I_R = 5.0 \mu\text{A}$   | 75   |      | V             |
|          |                       | $I_R = 100 \mu\text{A}$   | 100  |      |               |
| $V_F$    | Forward Voltage       | $I_F = 10 \text{ mA}$   |      | 1.0  | V             |
| $I_R$    | Reverse Current       | $V_R = 20 \text{ V}$  |      | 25   | nA            |
|          |                       | $V_R = 20 \text{ V}, T_A = 150^\circ\text{C}$   |      | 50   | $\mu\text{A}$ |
|          |                       | $V_R = 75 \text{ V}$  |      | 5.0  | $\mu\text{A}$ |
| $C_T$    | Total Capacitance     | $V_R = 0, f = 1.0 \text{ MHz}$  |      | 4.0  | pF            |
| $t_{rr}$ | Reverse Recovery Time | $I_F = 10 \text{ mA}, V_R = 6.0 \text{ V}, I_{RR} = 1.0 \text{ mA}, R_L = 100 \Omega$ |      | 4.0  | nS            |

### Typical Performance Characteristics

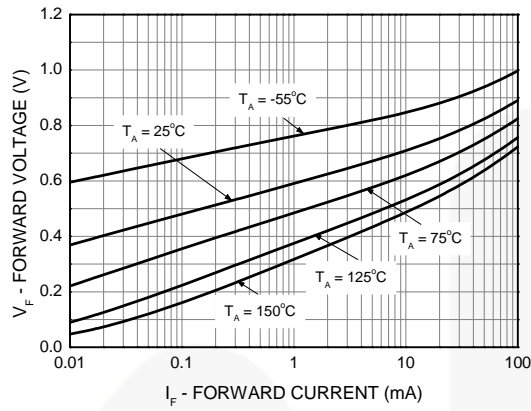


Figure 1. Forward Voltage vs. Forward Current

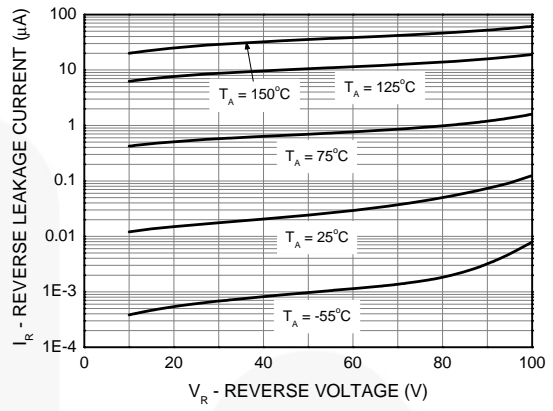


Figure 2. Reverse Voltage vs. Reverse Current

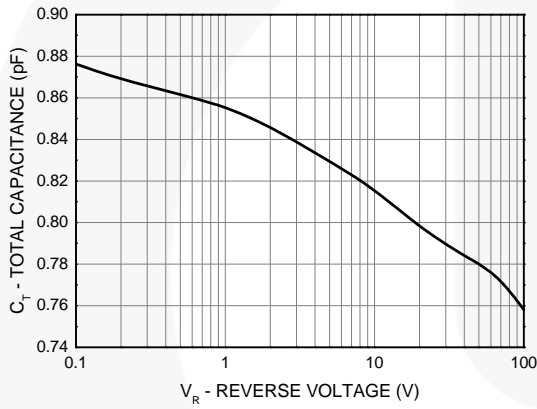
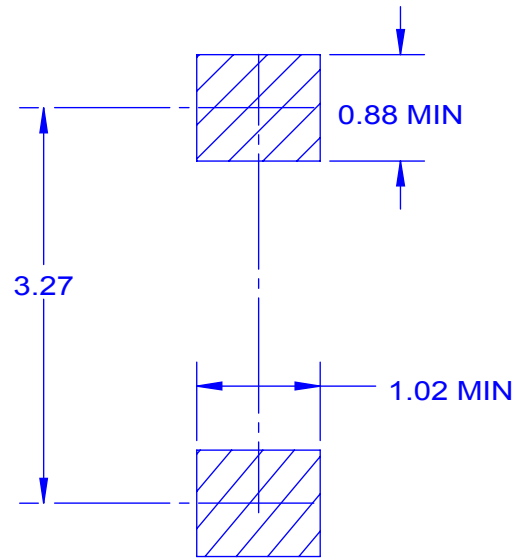


Figure 3. Total Capacitance

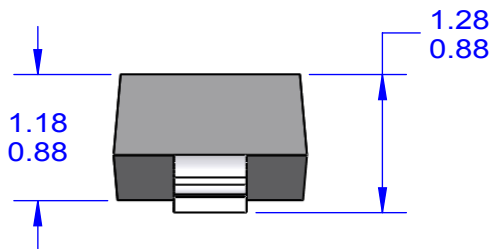




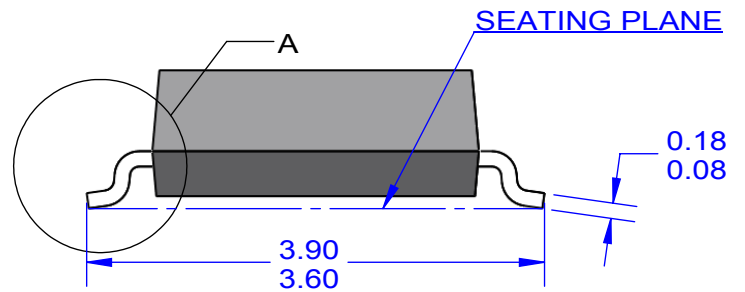
TOP VIEW



LAND PATTERN RECOMMENDATION



FRONT VIEW



SIDE VIEW



DETAIL "A"  
SCALE 2:1

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- A) PACKAGE REFERENCE: JEDEC, DO-215 ISSUE D, VARIATION AD.
  - B) ALL DIMENSIONS ARE IN MILLIMETERS.
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