

# MMSD4148

**General Description:**

The high breakdown voltage, fast switching speed and high forward conductance of this diode packaged in a SOD-123 Surface Mount package makes it desirable also as a general purpose diode.

**Features:**

- Compact surface mount with same footprint as mini-melf.
- 400 milliwatt Power Dissipation package.
- High Breakdown Voltage, Fast Switching Speed.
- Typical capacitance less than 1.5 picofarad.

**Ordering:**

- 7 inch reel (178 mm); 8 mm Tape; 3,000 units per reel.

## High Conductance Fast Diode

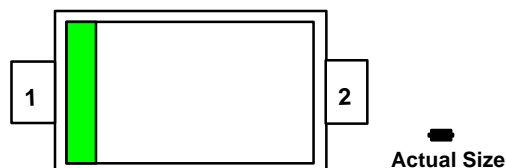
**Absolute Maximum Ratings\*** TA = 25°C unless otherwise noted

| Sym                   | Parameter  | Value       | Units |
|-----------------------|--|-------------|-------|
| T <sub>stg</sub>      | Storage Temperature  | -55 to +150 | °C    |
| T <sub>J</sub>        | Operating Junction Temperature                             | -55 to +150 | °C    |
| P <sub>D</sub>        | Total Power Dissipation at T <sub>A</sub> = 25°C           | 400         | W     |
|                       | Linear Derating Factor from T <sub>A</sub> = 25°C          | 3.2         | mW/°C |
| R <sub>OJA</sub>      | Thermal Resistance Junction-to-Ambient                     | 312         | °C/W  |
| W <sub>IV</sub>       | Working Inverse Voltage                                    | 75          | V     |
| I <sub>O</sub>        | Average Rectified Current                                  | 200         | mA    |
| I <sub>F</sub>        | DC Forward Current (IF)                                    | 600         | mA    |
| i <sub>F(surge)</sub> | Peak Forward Surge Current (IFSM) Pulse Width = 1.0 Second | 1.0         | Amp   |
|                       | Pulse Width = 1.0 microsecond                              | 2.0         | Amp   |

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

ELECTRICALLY THE SAME AS  
THE FDLL4148 DEVICE. SOURCED  
FROM THE 1P PRODUCT.

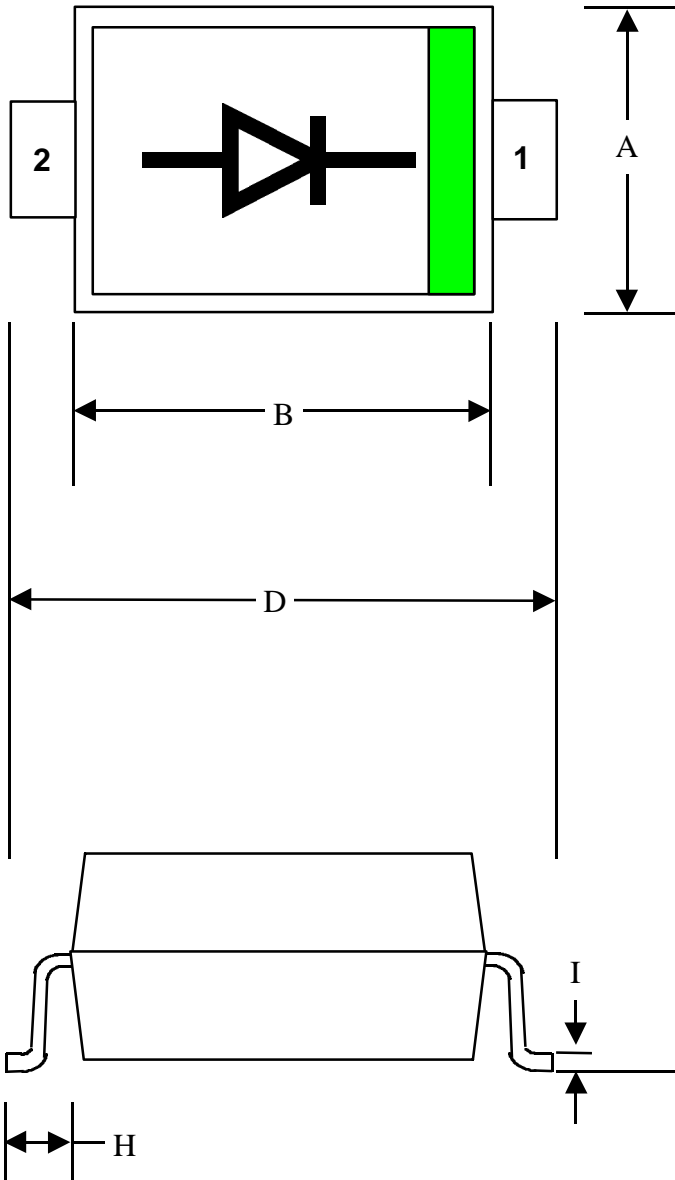
Top Mark: 5H



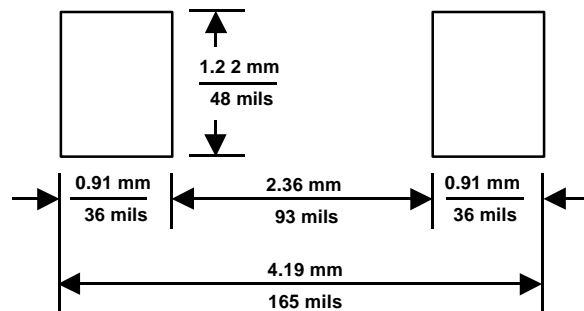
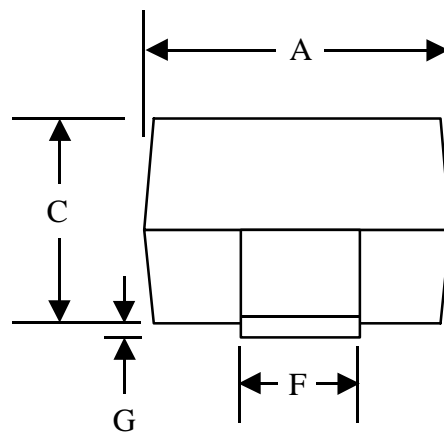
**Electrical Characteristics** TA = 25°C unless otherwise noted

| SYM             | CHARACTERISTICS       | MIN | MAX | UNITS | TEST CONDITIONS  |
|-----------------|-----------------------|-----|-----|-------|--|
| B <sub>V</sub>  | Breakdown Voltage     | 100 |     | V     | I <sub>R</sub> = 100 uA  |
|                 |                       | 75  |     | V     | I <sub>R</sub> = 5.0 uA  |
| I <sub>R</sub>  | Reverse Leakage       |     | 25  | nA    | V <sub>R</sub> = 20 V  |
|                 |                       |     | 50  | uA    | V <sub>R</sub> = 20 V T <sub>A</sub> = 150°C   |
|                 |                       |     | 5.0 | uA    | V <sub>R</sub> = 75 V  |
| V <sub>F</sub>  | Forward Voltage       |     | 1.0 | V     | I <sub>F</sub> = 10 mA   |
| C <sub>T</sub>  | Capacitance           |     | 4.0 | pF    | V <sub>R</sub> = 0.0 V, f = 1.0 MHz  |
| T <sub>RR</sub> | Reverse Recovery Time |     | 4.0 | ns    | I <sub>F</sub> = 10 mA V <sub>R</sub> = 6.0 V<br>I <sub>RR</sub> = 1.0 mA<br>R <sub>L</sub> = 100 Ohms |

**SOD-123 PACKAGE**  
PACKAGE CODE = (D6)  
Fairchild Semiconductor's Criteria



| Actual Size<br>DIM | MIN<br>(mils) | MAX<br>(mils) | MIN<br>(mm) | MAX<br>(mm) |
|--------------------|---------------|---------------|-------------|-------------|
| A                  | 55            | 71            | 1.400       | 1.800       |
| B                  | 100           | 112           | 2.550       | 2.850       |
| C                  | 35            | 46            | 0.880       | 1.180       |
| D                  | 142           | 154           | 3.600       | 3.900       |
| E                  | ----          | ----          | -----       | -----       |
| F                  | 21            | 28            | 0.546       | 0.70        |
| G                  | 0.5           | 4             | 0.0135      | 0.1015      |
| H                  | 13            | ----          | 0.322       | -----       |
| I                  | 4             | 8             | 0.095       | 0.195       |



SOD-123 LAND PADS

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| FACT™                | QST™          |      |
| FACT Quiet Series™   | Quiet Series™ |      |
| FAST®                | SuperSOT™-3   |      |
| FASTr™               | SuperSOT™-6   |      |
| GTO™                 | SuperSOT™-8   |      |
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|--------------------------|------------------------|---|
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