MDSM-10 10.2mm Sub-miniature Surface Mount Reed Switch

Description

The MDSM-10 Reed Switch is a sub-miniature, surface mounting, normally open switch with a 10.16mm long x 1.80mm diameter (0.400" x 0.071") glass envelope, capable of switching 200Vdc at 10W. This reed switch is a surface mount version of the MDSR-10. It has high insulation resistance of $10^{12}$ ohms minimum and low contact resistance of less than 120milli-ohms.

Features

- Surface mounting normally open switch
- Capable of switching 200Vdc or 0.5A at up to 10W
- Low, stable contact resistance
- Available sensitivity 10-25 AT

Benefits

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Low space requirement
- Zero operating power required for contact closure
- Excellent for switching microcontroller logic level loads

Applications

- Position Sensing
- Level Sensing
- Security
- Metering

Switch Type

<table>
<thead>
<tr>
<th>Contact Form</th>
<th>A (SPST-NO)</th>
</tr>
</thead>
</table>

Materials

Body: Glass
Leads: Tin-plated Ni-Fe wire

Electrical Ratings

<table>
<thead>
<tr>
<th>Contact Rating</th>
<th>W/VA - max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage 3</td>
<td>200</td>
</tr>
<tr>
<td>Current 3</td>
<td>140</td>
</tr>
<tr>
<td>Resistance</td>
<td>250</td>
</tr>
<tr>
<td>Capacitance</td>
<td>0.12</td>
</tr>
<tr>
<td>Temperature</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Notes:
1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
3. Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
5. Storage Temperature - Long time exposure at elevated temperature may degrade solderability of the leads.
Surface Mount Reed Switches
Low Power > MDSM-10

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Product Characteristics

<table>
<thead>
<tr>
<th>Operating Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate Time (^1)</td>
<td>0.5ms - max.</td>
</tr>
<tr>
<td>Release Time (^1)</td>
<td>0.1ms - max.</td>
</tr>
<tr>
<td>Shock (^2)</td>
<td>11ms 1/2 sine wave</td>
</tr>
<tr>
<td>Vibration (^2)</td>
<td>50-2000 Hertz</td>
</tr>
<tr>
<td>Resonant Frequency</td>
<td>6.5kHz - typ.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Magnetic Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull-In Range (^3)</td>
<td>Ampere Turns</td>
</tr>
<tr>
<td>Rating Sensitivity (^4)</td>
<td>Ampere Turns</td>
</tr>
</tbody>
</table>

Notes:
1. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
3. Pull-In Range - Contact Littelfuse for narrower AT ranges available. These AT values are the before modification AT of the MDSR-10.
4. Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.

Drop-Out vs. Pull-In Chart

Part Numbering System

MDSM-10R - 10-15

Series
Packaging
R = Tape and Reel
B = Bulk
AT Range
10-25 AT
10-15 AT
15-20 AT
20-25 AT
Example: 10-15 AT product in Bulk packaging is MDSM-10B-10-15

Note: These AT values are the before-modification values of the bare reed switch.

Additional Information

Packaging

<table>
<thead>
<tr>
<th>Packaging Option</th>
<th>Packaging Specification</th>
<th>Quantity</th>
<th>Quantity and Packaging Code</th>
<th>Taping Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape and Reel</td>
<td>EIA-RS-481-1</td>
<td>3000</td>
<td>R</td>
<td>32mm</td>
</tr>
<tr>
<td>Bulk</td>
<td>N/A</td>
<td>200</td>
<td>B</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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**TAPE DIMENSIONS mm (inch)**

**REEL DIMENSIONS mm (inch)**

1. All tape & sprocket hole dimensions are per EIA-481 unless noted.
2. All pocket dimensions are ±0.004" ±0.10mm.
3. All dimensions are to inside of pocket.

Specifications are subject to change without notice.