MDCG-4 15.3mm Sub-miniature Reed Switch

Description
The MDCG-4 Reed Switch is a sub-miniature, normally open switch with a 15.24mm long x 2.28mm diameter (0.600” x 0.090”) glass envelope, capable of switching 200Vdc at 10W. It has high insulation resistance of $10^{10}$ ohms minimum and contact resistance less than 100 milli-ohms. This reed switch is also available in a surface mount version, that is, MDSM-4.

Features
- Sub-miniature normally open switch
- Available sensitivity 12-38 AT
- Capable of switching 200Vdc or 0.5A at up to 10W

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

Applications
- Reed Relays
- Security
- Limit Switching
- Level Sensing
- Office Equipment
- Industrial Control

Agency Approvals

<table>
<thead>
<tr>
<th>Agency</th>
<th>Agency File Number</th>
<th>Ampere-Turns Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL (c)</td>
<td>E47258</td>
<td>E471070</td>
</tr>
<tr>
<td>Ex</td>
<td>DEMKO 14 ATEX 1393U</td>
<td>12-38 AT</td>
</tr>
</tbody>
</table>

Dimensions
Dimensions in mm (inch)

Switch Type

- Contact Form: A (SPST-NO)
- Materials: Body: Glass
- Leads: Tin-plated Ni-Fe wire

Electrical Ratings

<table>
<thead>
<tr>
<th>Contact Rating a</th>
<th>Voltage b</th>
<th>Current c</th>
<th>Resistance</th>
<th>Capacitance</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Switching 2</td>
<td></td>
<td>Contact, Initial</td>
<td>Contact</td>
<td>Operating</td>
</tr>
<tr>
<td></td>
<td>Breakdown</td>
<td></td>
<td>Insulation</td>
<td>pF - typ.</td>
<td>°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°F</td>
<td></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.

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Axial Lead Reed Switches
Low Power > MDCG-4

MDCG-4 15.24mm Sub-miniature Reed Switch

Product Characteristics

Operating Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate Time</td>
<td>0.6ms - max.</td>
</tr>
<tr>
<td>Release Time</td>
<td>0.2ms - max.</td>
</tr>
<tr>
<td>Shock</td>
<td>11ms 1/2 sine wave</td>
</tr>
<tr>
<td>Vibration</td>
<td>50-2000 Hertz</td>
</tr>
<tr>
<td>Resonant Frequency</td>
<td>3.9kHz - typ.</td>
</tr>
</tbody>
</table>

Magnetic Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull-In Range</td>
<td>12-38 Ampere Turns</td>
</tr>
<tr>
<td>Rating Sensitivity</td>
<td>20 Ampere Turns</td>
</tr>
<tr>
<td>Test Coil</td>
<td>L4989</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.
4. Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
5. Custom modifications of forming and/or cutting of reed switches are available. Please contact Littelfuse.

Drop-Out vs. Pull-In Chart

Note: Chart represents the range of Drop-Out, min to max for a given Pull-In value.

Part Numbering System

MDCG-4 -12-18

Series

AT Range
12-18 AT
12-23 AT
17-23 AT
17-28 AT
22-28 AT
22-33 AT
27-33 AT
27-38 AT
32-38 AT

Example:
12-18 AT product is MDCG-4-12-18

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 &amp; Packaging Code</th>
<th>Taping Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk</td>
<td>Bulk</td>
<td>1000</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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