Surface Mount Reed Switches
High Power > MLSM-4

MLSM-4 15.2mm Surface Mount Reed Switch

Description
The MLSM-4 Reed Switch is a miniature, surface mounting, normally open switch with a 15.24mm long x 2.66mm diameter (0.600” x 0.105”) glass envelope. It is capable of switching 200Vdc at 20W with close differential (CD) characteristics.

This reed switch is the surface mount version of the MLRR-4. It has high insulation resistance of $10^{10}$ ohms minimum and contact resistance less than 100 milli-ohms.

It can handle lamp loads up to 2W @ 14V with no suppression circuitry.

Features
- Surface mount, normally open switch
- Capable of switching 200Vdc or 1A at up to 20W
- Available sensitivity 17-38 AT
- Close differential AT between the PI and DO value.
- Capable of switching small Incandescent lamp loads

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

Applications
- Position Sensing
- Level sensing
- Security
- Office Equipment
- Light inductive loads
- Lamp Loads up to 2W @ 14V

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

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.
## Product Characteristics

### Operating Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate Time</td>
<td>0.7ms - 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>6.0kHz - typ.</td>
</tr>
</tbody>
</table>

### Magnetic Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull-In Range</td>
<td>17-38 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. These AT values are the before modification AT of the MLRR-4.
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

![Drop-Out vs. Pull-In Chart](image)

**Note:** Chart represents the range of Drop-Out, min to max, for a given Pull-in value of the MLRR-4 prior to modification inst the MLSM-4.

## Part Numbering System

**MLSM-4R - 17-23**

- **Series**: MLSM-4R
- **Packaging**: R = Tape and Reel, B = Bulk
- **AT Range**: 17-23 AT, 17-28 AT, 22-28 AT, 22-33 AT, 27-33 AT, 27-38 AT, 32-38 AT

**Example:** 17-23 AT product in Bulk packaging is MLSM-4B-17-23

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

## 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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Specifications are subject to change without notice.
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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 ±0.10mm
3. ALL DIMENSIONS ARE TO INSIDE OF POCKET