## MLRR-3 15.2 mm Miniature Close Differential Reed Switch



## Agency Approvals

| Agency | Agency File Number | Ampere-Turns Range |
| :---: | :---: | :---: |
| C EUS | E47258 |  |
| E471070 | $17-38$ AT |  |

Note: Contact Littelfuse for specific agency approval ratings.

## Dimensions

Dimensions in mm


## Description

The MLRR-3 Reed Switch is a miniature, normally open switch with a 15.24 mm long $\times 2.54 \mathrm{~mm}$ diameter ( $0.600^{\prime \prime} \times 0.100^{\prime \prime}$ ) glass envelope, capable of switching 200 Vdc at 20 W with close differential (CD) characteristics. 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, MLSM-3. It can handle light inductive loads.

## Features

- Miniature normally open switch
- Capable of switching 200Vdc or 01.0A at up to 20W.
- Available sensitivity range 17-38 AT
- Close differential AT between PI and DO value
- Maximum switched current of 1.0Amps


## Benefits

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment


## Applications

- Security
- Limit Switching


## Switch Type

| Contact Form | A (SPST-NO) |
| :---: | :---: |
| Materials | Body: Glass |

Note: SPST-NO = Single-pole, single-throw, normally open

## Electrical Ratings

| Contact Rating ${ }^{1}$ |  | Watt - max. | 20 |
| :---: | :---: | :---: | :---: |
| Voltage ${ }^{3}$ | Switching ${ }^{2}$ <br> Breakdown ${ }^{4}$ | Vdc - max. <br> Vac - max. <br> Vdc - min. | $\begin{aligned} & 200 \\ & 140 \\ & 250 \end{aligned}$ |
| Current ${ }^{3}$ | Switching ${ }^{2}$ <br> Carry | Adc - max. <br> Aac - max. <br> Adc - max. | $\begin{aligned} & 1.0 \\ & 0.7 \\ & 1.2 \end{aligned}$ |
| Resistance | Contact, Initial Insulation | $\begin{aligned} & \Omega-\max \\ & \Omega-\min \end{aligned}$ | $\begin{gathered} 0.100 \\ 10^{10} \end{gathered}$ |
| Capacitance | Contact | pF - typ. | 0.4 |
| Temperature | Operating Storage ${ }^{5}$ | $\begin{aligned} & { }^{\circ} \mathrm{C} \\ & { }^{\circ} \mathrm{C} \end{aligned}$ | $\begin{aligned} & -40 \text { to }+125 \\ & -65 \text { to }+125 \end{aligned}$ |

## 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.
4. Breakdown Voltage - per MIL-STD-202, Method 301.
5. Storage Temperature - Long time exposure at elevated temperature may degrade solderability of the leads.

## MLRR-3 15.2 mm Miniature Close Differential Reed Switch

## Product Characteristics

| Operating Characteristics |  |  |
| :---: | :---: | :---: |
| Operate Time ${ }^{1}$ |  | 0.7 ms - max. |
| Release Time ${ }^{1}$ |  | 0.2 ms - max. |
| Shock ${ }^{2}$ | $11 \mathrm{~ms} 1 / 2$ sine wave | 100G - max. |
| Vibration ${ }^{2}$ | 50-2000 Hertz | 30G - max. |
| Resonant Frequency |  | 6.25 kHz - typ. |
| Magnetic Characteristics |  |  |
| Pull-In Range ${ }^{3}$ | Ampere Turns | 17-38 |
| Rating Sensitivity ${ }^{4}$ | Ampere Turns | 20 |
| Test Coil |  | $\llcorner 4989$ |

## Notes:

1. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A,diode suppressed coil (Coil II).
2. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
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: The chart represents the range of Drop-Out, minimum to maximum for a given Pull-In value

Part Numbering System MLRR-3-17-23


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

Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity \& Packaging Code | Taping Width |
| :---: | :---: | :---: | :---: | :---: |
| Bulk | Bulk | 3000 | N/A | N/A |

