

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

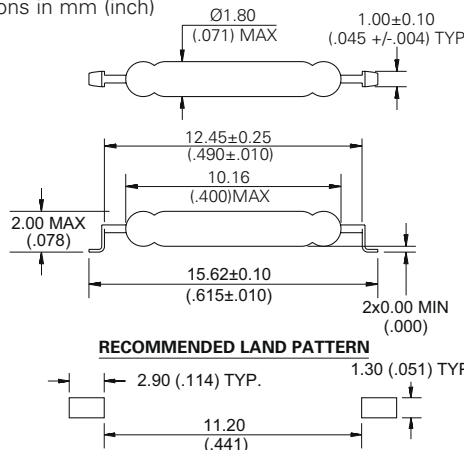
- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Low space requirement
- Zero operating power required for contact closure
- Excellent for switching microcontroller logic level loads

Agency Approvals

| Agency | Agency File Number | Ampere-Turns Range |
|--------|---------------------|--------------------|
| | E47258 E471070 | 10-25 AT |
| | DEMKO 14 ATEX 1393U | 10-25 AT |

Dimensions

Dimensions in mm (inch)



Note: Land pattern is Littelfuse recommendation only. User is responsible for proper PCB design.

Applications

- Position Sensing
- Level Sensing
- Security
- Metering

Switch Type

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

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

Electrical Ratings

| | | | |
|-----------------------------|-----------------------------------|--------------------|-------------|
| Contact Rating ¹ | | W/VA - max. | 10 |
| Voltage ³ | Switching ² | Vdc - max. | 200 |
| | Breakdown ⁴ | Vac - max. | 140 |
| | | Vdc - min. | 250 |
| Current ³ | Switching ² | Adc - max. | 0.50 |
| | Carry | Aac - max. | 0.35 |
| | | Adc - max. | 1.00 |
| Resistance | Contact, Initial Insulation | Ω - max. | 0.12 |
| | | Ω - min. | 10^{12} |
| Capacitance | Contact | pF - typ. | 0.2 |
| Temperature | Operating Storage ⁵ | $^{\circ}\text{C}$ | -40 to +125 |
| | | $^{\circ}\text{C}$ | -65 to +125 |

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.

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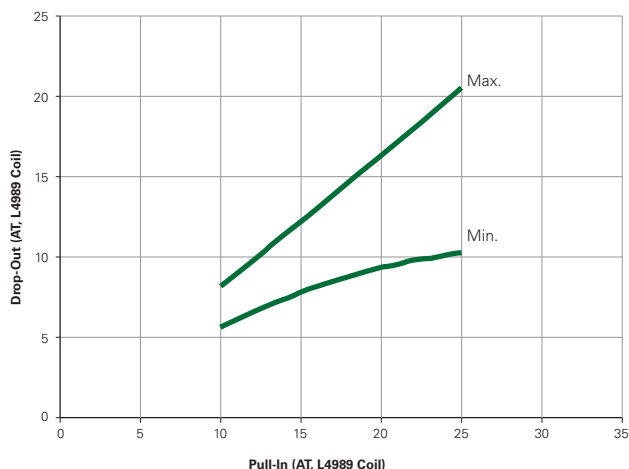
Product Characteristics

| Operating Characteristics | | |
|---------------------------------|--------------------|---------------|
| Operate Time ¹ | | 0.5ms - max. |
| Release Time ¹ | | 0.1ms - max. |
| Shock ² | 11ms 1/2 sine wave | 100G - max. |
| Vibration ² | 50-2000 Hertz | 30G - max. |
| Resonant Frequency | | 6.5kHz - typ. |
| Magnetic Characteristics | | |
| Pull-In Range ³ | Ampere Turns | 10-25 |
| Rating Sensitivity ⁴ | Ampere Turns | 15 |
| Test Coil | | L4989 |

Notes:

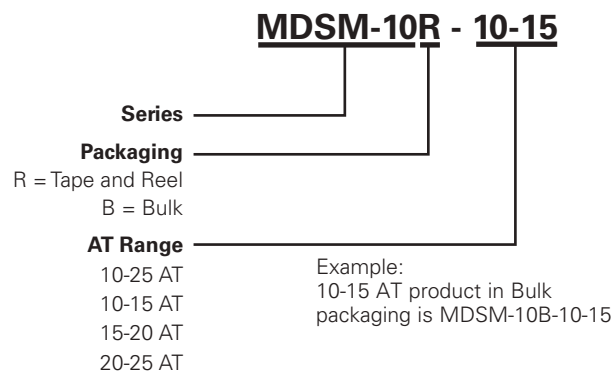
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available. These AT values are the before modification AT of the MDSR-10.
- Rating 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



Note: Chart represents the range of Drop-Out, min to max, for a given Pull-in value of the MDSR-10 prior to modification into the MDSM-10.

Part Numbering System



Note:

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

Additional Information



Datasheet



Resources



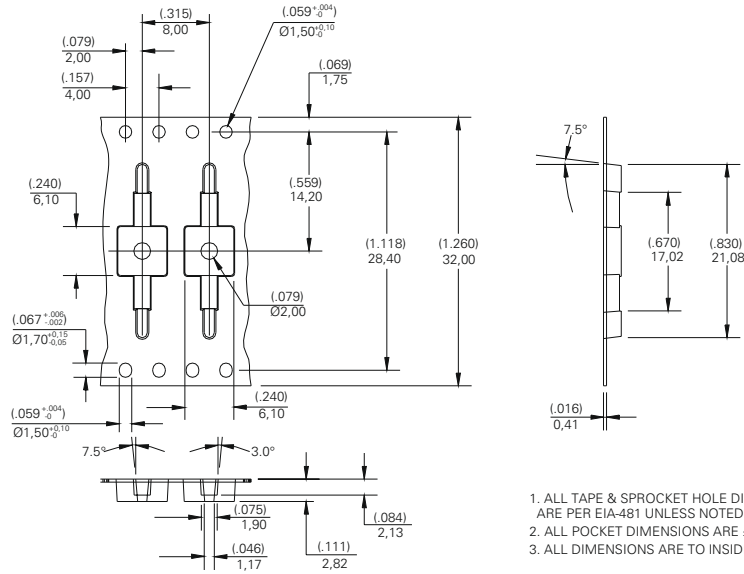
Samples

Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity and Packaging Code | Taping Width |
|------------------|-------------------------|----------|-----------------------------|--------------|
| Tape and Reel | EIA-RS-481-1 | 3000 | R | 32mm |
| Bulk | N/A | 200 | B | N/A |

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TAPE 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

REEL DIMENSIONS mm (inch)

