

MDSR-7 12.7mm Sub-miniature Reed Switch



Description

The MDSR-7 Reed Switch is a sub-miniature, normally open switch with a 12.70mm long x 1.80mm diameter (0.500" x 0.071") glass envelope, capable of switching 200Vdc at 10W. It has high insulation resistance of 10¹² ohms minimum and low contact resistance of less than 100 milli-ohms.

Features

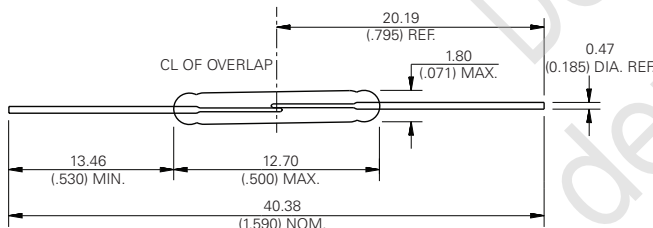
- Sub-miniature normally open switch
- Capable of switching 200V or 0.5A at up to 10W
- Available sensitivity range 10-25 AT

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)



Benefits

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

Applications

- Reed Relays (particularly suited to ATE type applications)
- Security Systems
- Limit Switching
- Office Equipment

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. | 0.5 |
| | Carry | Aac - max. | 0.35 |
| | | Adc - max. | 0.80 |
| Resistance | Contact, Initial | Ω - max. | 0.100 |
| | Insulation | Ω - min. | 10 ¹² |
| Capacitance | Contact | pF - typ. | 0.3 |
| Temperature | Operating | °C | -40 to +125 |
| | Storage ⁵ | °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 | | 0.6ms - max. |
| Release Time ¹ | | 0.2ms - max. |
| Shock ² | 11ms 1/2 sine wave | 100G - max. |
| Vibration ² | 50-2000 Hertz | 30G - max. |
| Resonant Frequency | | 5.5kHz - typ. |

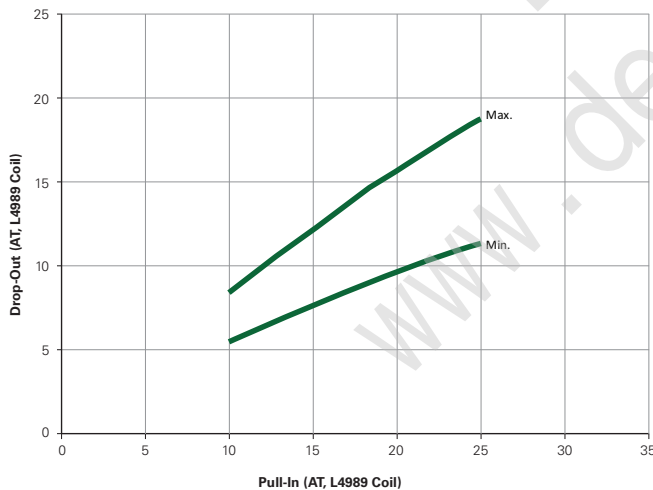
Magnetic Characteristics

| | | |
|---------------------------------|--------------|-------|
| Pull-In Range ³ | Ampere Turns | 10-25 |
| Rating Sensitivity ⁴ | Ampere Turns | 20 |
| Test Coil | | L4989 |

Notes:

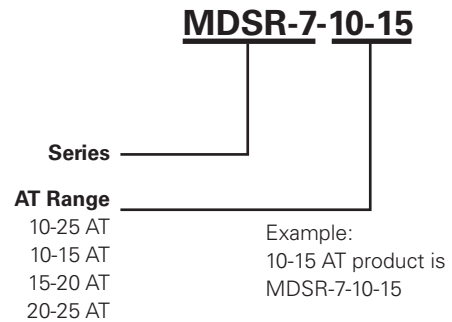
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available.
- Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
- 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



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 | 1000 | N/A | N/A |