

# MDSR-10 10.2mm Sub-miniature Reed Switch



## Description

The MDSR-10 Reed Switch is a sub-miniature, 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. It has high insulation resistance of  $10^{12}$  ohms minimum and low contact resistance of less than 120 milli-ohms. This reed switch is also available in a surface mount version, that is, MDSM-10.

## Features

- Sub-miniature normally open switch
- Capable of switching 200Vdc or 0.5A at up to 10W
- $10^{12}$  Ohms insulation resistance
- Available sensitivity range 10-25 AT

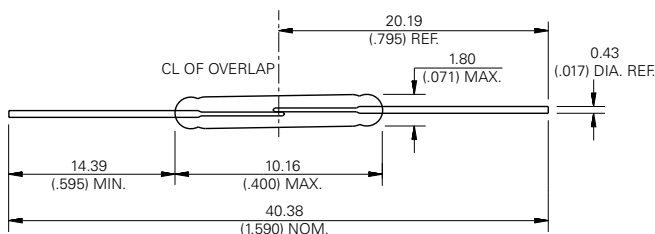
## Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
	E47258 E471070	10-25 AT

**Note:** Contact Littelfuse for specific agency approval ratings.

## Dimensions

Dimensions in mm (inch)



## 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
- Excellent for switching microcontroller logic level loads

## Applications

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

## 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 <sup>1</sup>		W/VA - max.	10
Voltage <sup>3</sup>	Switching <sup>2</sup>	Vdc - max.	200
	Breakdown <sup>4</sup>	Vac - max. Vdc - min.	140 250
Current <sup>3</sup>	Switching <sup>2</sup>	Adc - max.	0.50
	Carry	Aac - max.	0.35
		Adc - max.	1.00
Resistance	Contact, Initial Insulation	$\Omega$ - max.	0.120
		$\Omega$ - min.	$10^{12}$
Capacitance	Contact	pF - typ.	0.2
Temperature	Operating Storage <sup>5</sup>	$^{\circ}\text{C}$	-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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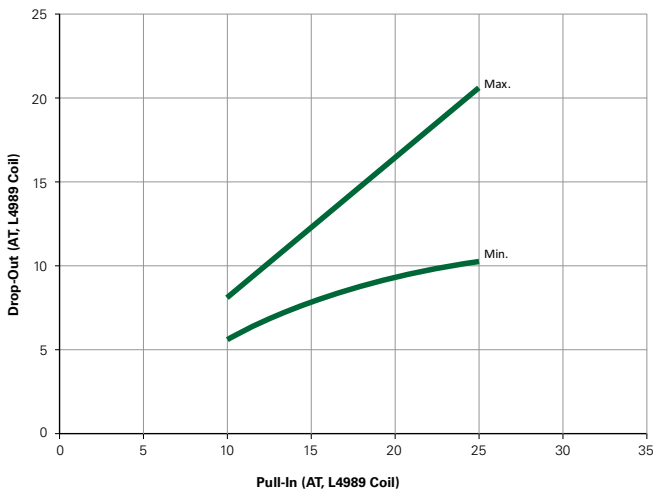
### Product Characteristics

Operating Characteristics		
Operate Time <sup>1</sup>		0.5ms - max.
Release Time <sup>1</sup>		0.1ms - max.
Shock <sup>2</sup>	11ms 1/2 sine wave	100G - max.
Vibration <sup>2</sup>	50-2000 Hertz	30G - max.
Resonant Frequency		8.5kHz - typ.
Magnetic Characteristics		
Pull-In Range <sup>3</sup>	Ampere Turns	10-25
Rating Sensitivity <sup>4</sup>	Ampere Turns	15
Test Coil		L4989

**Notes:**

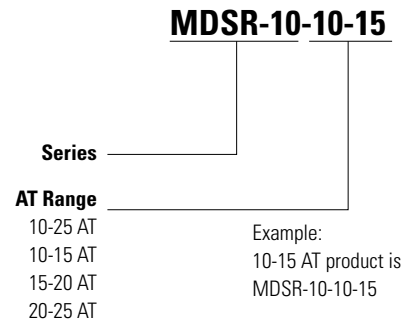
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available.
- Rating Sensitivity - The value at which contact ratings and operating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