

# MDSM-10 10.2mm Sub-miniature Surface Mount Reed Switch



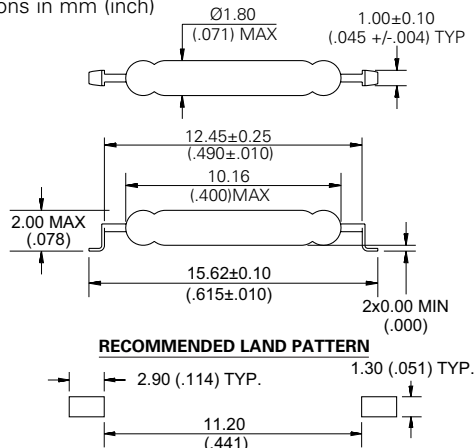
## Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
<b>cULUS</b>	E47258 E471070	10-25 AT

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

## Dimensions

Dimensions in mm (inch)



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

## Electrical Ratings

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

### Notes:

- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- 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.
- Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
- Breakdown Voltage - per MIL-STD-202, Method 301.
- Storage Temperature - Long time exposure at elevated temperature may degrade solderability of the leads.

## 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<sup>12</sup> 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

## 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

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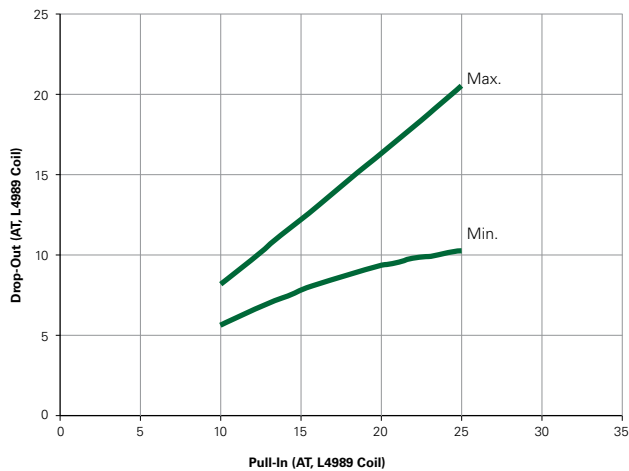
### Product Characteristics

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		6.5kHz - 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:

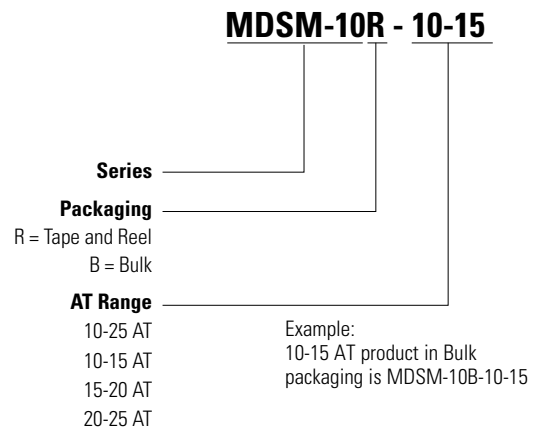
1. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
2. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
3. Pull-In Range - Contact Littelfuse for narrower AT ranges available. These AT values are the before modification AT of the MDSR-10.
4. 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



**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:

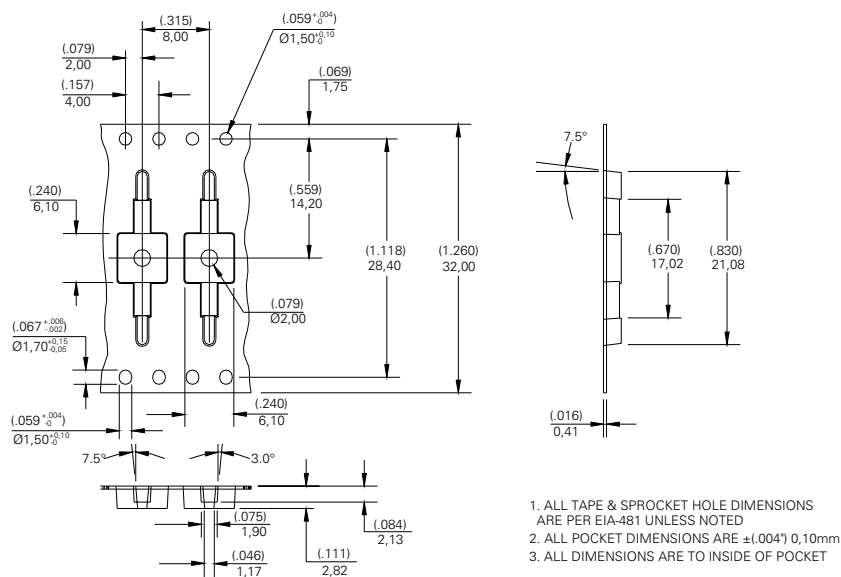
These AT values are the before-modification values of the bare reed switch.

### 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)



## REEL DIMENSIONS mm (inch)

