

# MDSM-10

## 10.2mm Sub-miniature Surface Mount



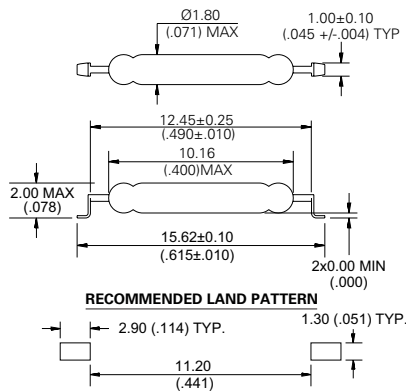
### Agency Approvals

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)



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

### 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 & Benefits

- 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
- 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

<b>Contact Form</b>	A (SPST-NO)
<b>Materials</b>	Body: Glass Leads: Tin-plated Ni-Fe wire

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

### Electrical Ratings

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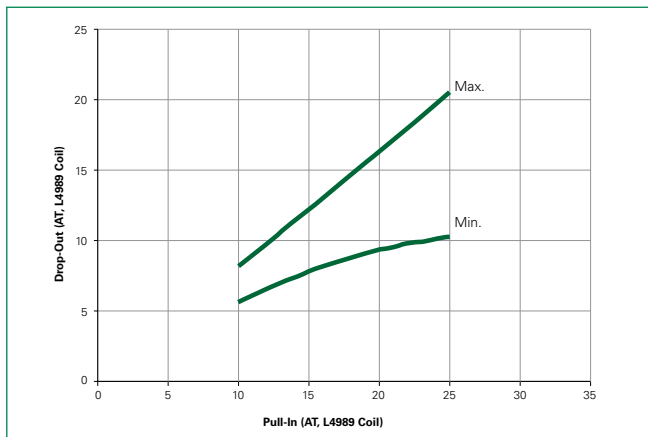
### Product Characteristics

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		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:**

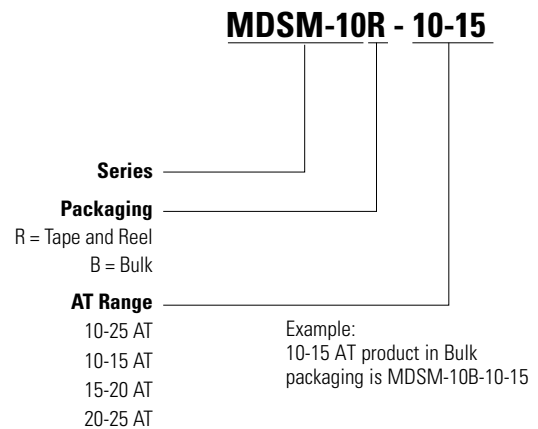
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available. These AT values are the before modification AT of the MDSR-10.
- Rating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

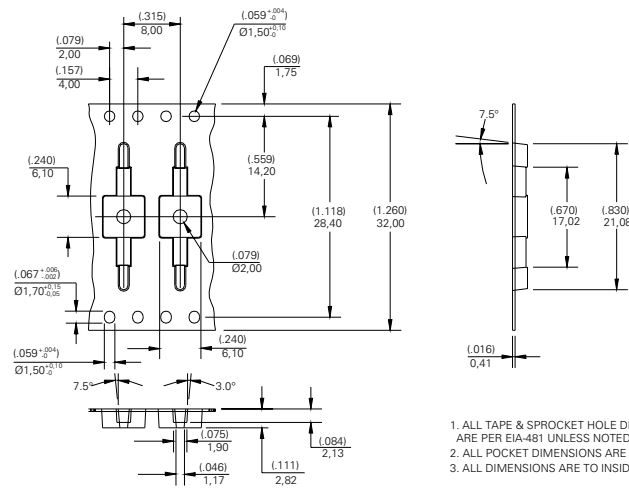
### Packaging

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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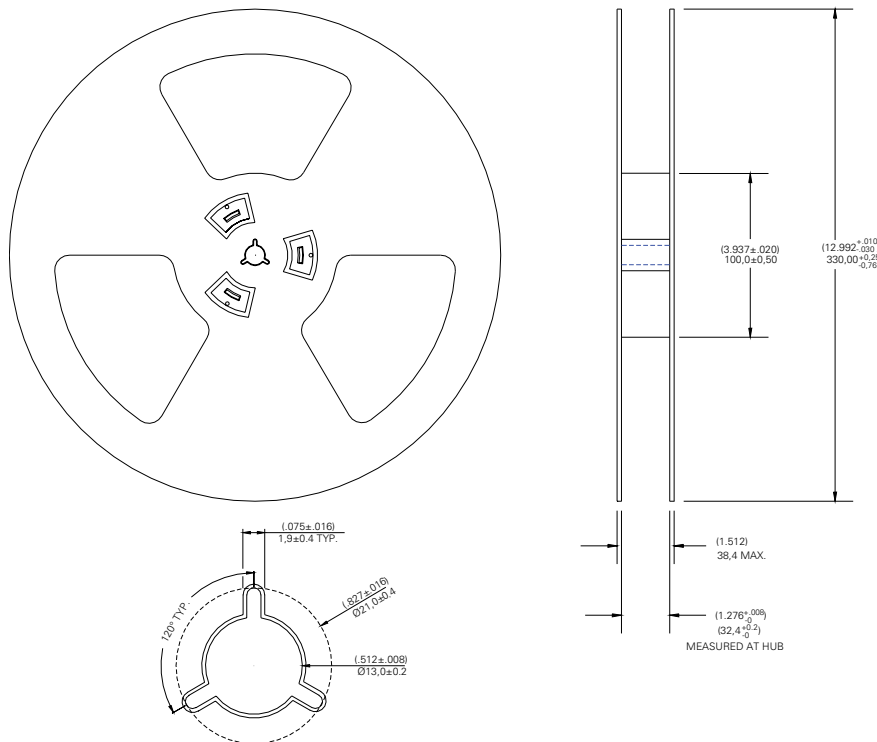
## 10.2mm Sub-miniature Surface Mount

### TAPE DIMENSIONS mm (inch)



1. ALL TAPE & SPROCKET HOLE DIMENSIONS ARE PER EIA-481 UNLESS NOTED
2. ALL POCKET DIMENSIONS ARE  $\pm(0.004)$  0.10mm
3. ALL DIMENSIONS ARE TO INSIDE OF POCKET

### REEL DIMENSIONS mm (inch)



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