# MDSM-10

# 10.2mm Sub-miniature Surface Mount







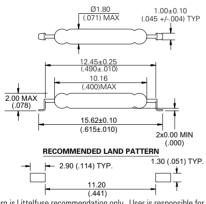
### **Agency Approvals**

Agency	Agency File Number	Ampere-Turns Range
c <b>FL</b> °us	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 1012 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

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

- 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.



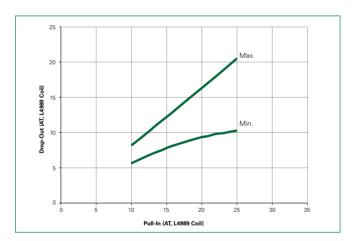
### **Product Characteristics**

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:

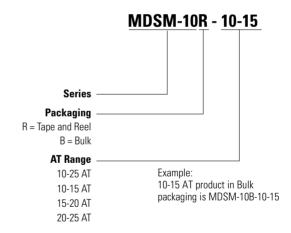
- 1. Operate (including bounce)/Release Time per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- 2. Shock and Vibration per EIA/NARM RS-421-A and MIL-STD-202.
- 3. Pull-In Range Contact Littelfuse for narrower AT ranges available. These AT values are the before modification AT of the MDSR-10.
-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

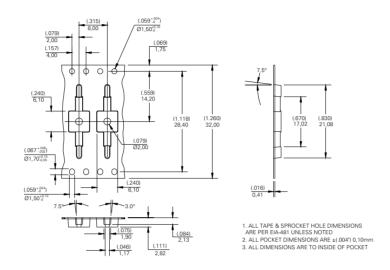
These AT values are the before-modification values of the bare reed switch.

### **Packaging**

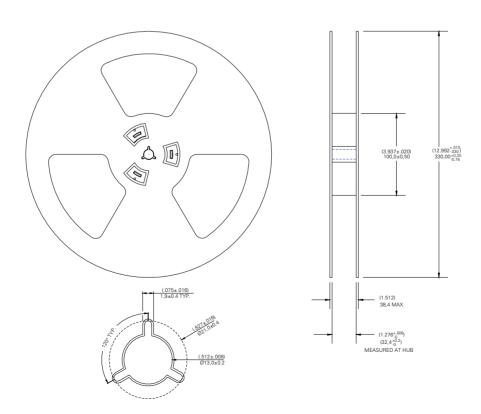
Packaging Option	Packaging Specification	Quantity	Quantity and Packaging Code	Taping Width
Tape and Reel	EIA-RS-481-1	3000	R	32mm
Bulk	N/A	200	В	N/A



### **TAPE DIMENSIONS mm (inch)**



### **REEL DIMENSIONS mm (inch)**



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