MDSM-10

10.2mm Sub-miniature Surface Mount



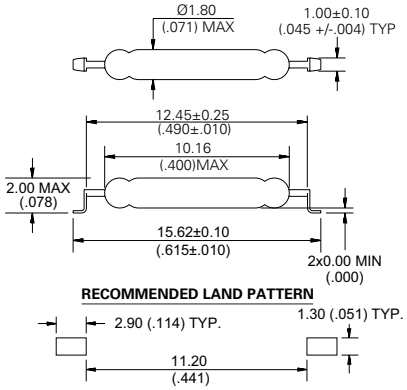
Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
c UL 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 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

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. Vac - max.	200 140
	Breakdown [4]	Vdc - min.	250
Current [3]	Switching [2]	Adc - max. Aac - max.	0.50 0.35
	Carry	Adc - max.	1.00
Resistance	Contact, Initial Insulation	Ω - max. Ω - min.	0.12 10^{12}
Capacitance	Contact	pF - typ.	0.2
Temperature	Operating Storage [5]	°C °C	-40 to +125 -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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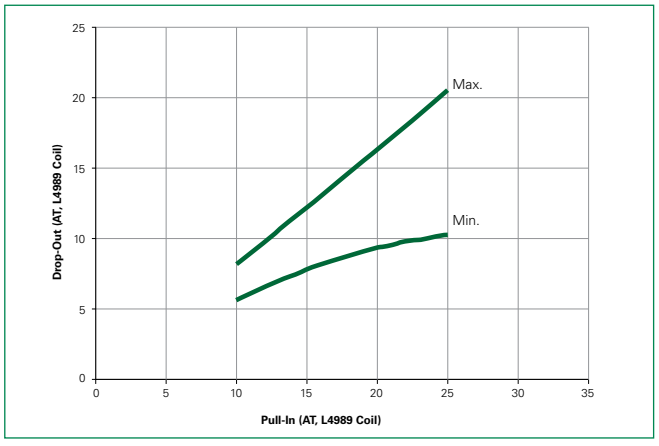
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Product Characteristics

Operating Characteristics		
Operate Time [1]		0.5ms - max.
Release Time [1]		0.1ms - max.
Shock [2]	11ms 1/2 sine wave	100G - max.
Vibration [2]	50-2000 Hertz	30G - max.
Resonant Frequency		6.5kHz - typ.
Magnetic Characteristics		
Pull-In Range [3]	Ampere Turns	10-25
Rating Sensitivity [4]	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

MDSM-10R - 10-15

Series

Packaging
R = Tape and Reel
B = Bulk

AT Range
10-25 AT
10-15 AT
15-20 AT
20-25 AT

Example:
10-15 AT product in Bulk packaging is MDSM-10B-10-15

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

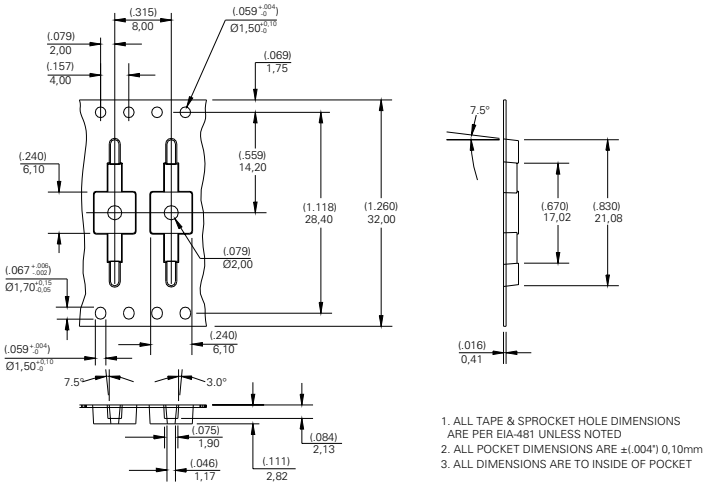
Packaging

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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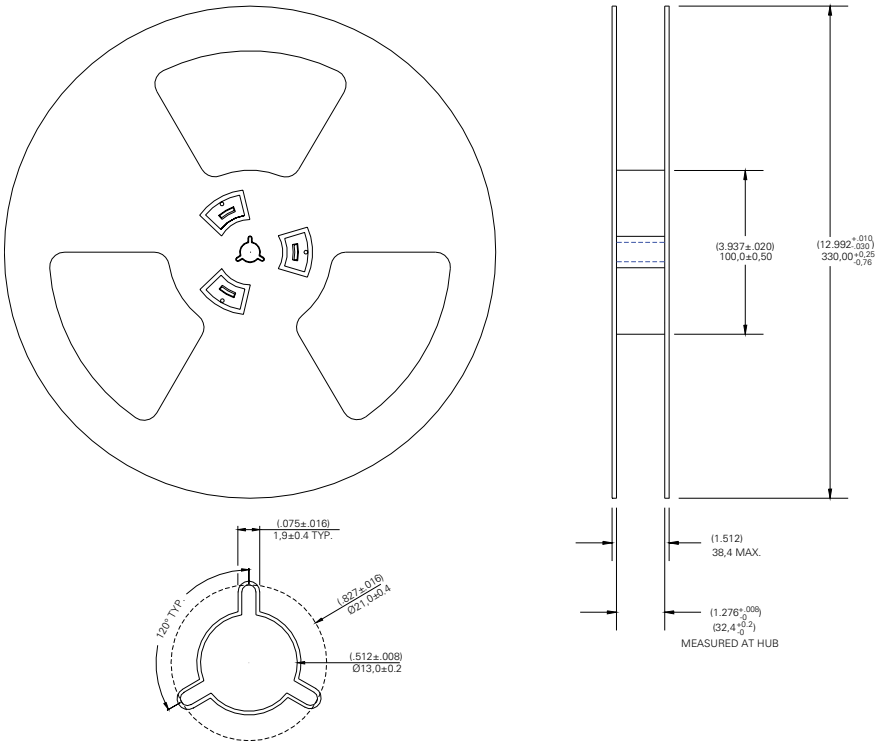
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TAPE DIMENSIONS mm (inch)



1. ALL TAPE & SPROCKET HOLE DIMENSIONS ARE PER EIA-481 UNLESS NOTED
2. ALL POCKET DIMENSIONS ARE ±(.004") 0,10mm
3. ALL DIMENSIONS ARE TO INSIDE OF POCKET

REEL DIMENSIONS mm (inch)



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