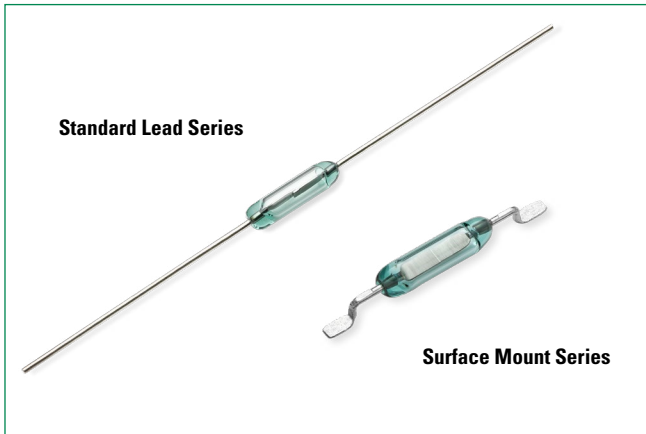


# MITI-7L

Long life > High Reliability > 7mm > Sub-miniature



## Description

The MITI-7L ultra-miniature reed switch is a normally open switch with a 7mm x 1.8mm (0.276" x 0.071") glass envelope, which is capable of switching 170 Vdc at 10W. It has a sensitivity range of 6–25 AT. It has a high insulation resistance of 10<sup>11</sup> Ohms minimum and low contact resistance of less than 150 milliohms.

The MITI-7L is also available in a surface mount version, that is, MISM-7L.

## Features & Benefits

- Prolong operating life cycles
- Ultra-miniature, normally open switch
- Wide sensitivity range 6–25 AT
- Hermetically sealed
- cULus recognition
- RoHS compliant
- Extending end product operating life and reliability
- Saves PCB space and reduce overall weight for compact size and light weight end products
- More design flexibility/options for end product: magnet size and sensitive distance
- Suitable for various operating environment/application
- Facilitates end product meeting/passing cULUS test/request
- Environment friendly

## Additional Information



Resources



Accessories

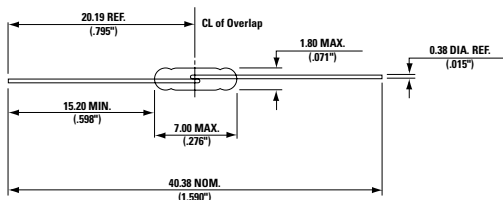


Samples

## Dimensions

Dimensions in mm (inch)

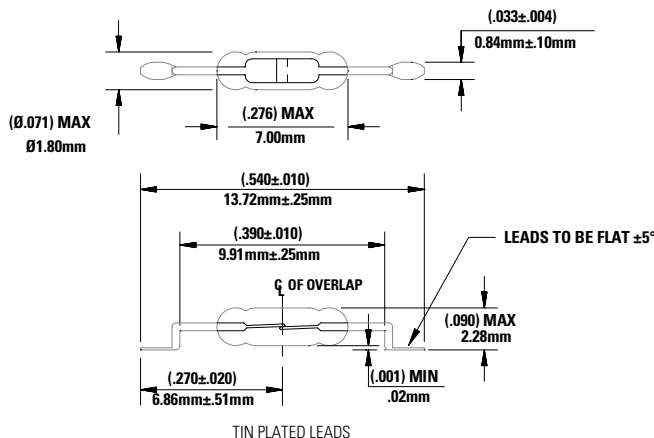
### Standard Lead Series



### Surface Mount Series

SWITCH TYPE: MITI-7

NOTE: CONTACT ORIENTATION AS SHOWN ±30°



## Applications

- Reed Relay particularly for Automatic Test Equipment (ATE) application that requires 7 mm long life switch
- Appliance applications that require long life and high reliability switch
- Position Sensing

## Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
cULUS	E47258	6–25 AT

Note: Contact Littelfuse for specific agency approval ratings.

## Switch Type

Contact Form	A (SPST-NO)
Materials	Body: Glass Leads: Tin Plated Nickel Iron

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

**MITI-7L**

Long life &gt; High Reliability &gt; 7mm &gt; Sub-miniature

**Electrical Ratings**

Contact Rating <sup>1</sup>	-	Watt - max.	10
Voltage <sup>3</sup>	Switching <sup>2</sup>	Vdc - max.	170
	Breakdown <sup>4</sup>	Vac - max.	120
Current <sup>3</sup>	Switching <sup>2</sup>	Vdc - min.	200
		Adc - max.	0.25
	Carry	Aac - max.	0.18
		Aac rms - max	0.21
Resistance	Contact, Initial	$\Omega$ - max.	0.15
	Insulation	$\Omega$ - min.	10 <sup>11</sup>
Capacitance	Contact	pF - typ.	0.65
Temperature	Operating Storage <sup>5</sup>	$^{\circ}\text{C}$	-40 to +125
		$^{\circ}\text{C}$	-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.

**Product Characteristics**

Operating Characteristics		
Operate Time <sup>1</sup>	-	0.4 ms - max. (with bounce)
Release Time <sup>1</sup>	-	0.5 ms - max.
Shock <sup>2</sup>	11ms 1/2 sine wave	100 G - max.
Vibration <sup>2</sup>	50–2000 Hertz	30 G - max.
Resonant Frequency	-	12.7 kHz - typ.
Magnetic Characteristics		
Pull-In Range <sup>3</sup>	Ampere Turns	6–25
Rating Sensitivity <sup>4</sup>	Ampere Turns	11
Test Coil	-	L4991

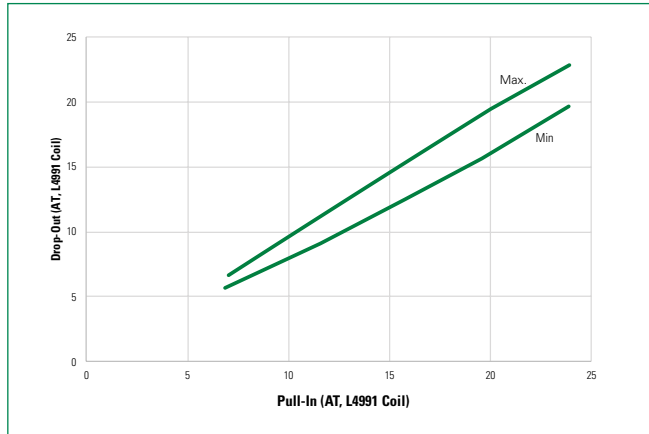
**Notes:**

- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil I).
- 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.

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## Drop-Out vs. Pull-In Chart



**Note:** The chart represents the range of Drop-Out, minimum to maximum for a given Pull-In value. This plot represents before modification.

## Part Numbering System

**MITI-7L-6-10**  
**Standard Lead Series** ——— **AT Range**  
 6-10 AT  
 10-15 AT  
 15-20 AT  
 20-25 AT  
**Example:** 6-10 AT product is MITI-7L-6-10

**MISM-7 R - 6-10**  
**Surface Mount Series** ——— **AT Range**  
 6-10 AT  
 10-15 AT  
 15-20 AT  
**Packaging**  
 R = Tape and Reel  
 B = Bulk  
**Form**  
 Blank = 13.72mm  
 5 = 12.60mm  
**Example:** 6-10 AT product is MISM-7R-6-10

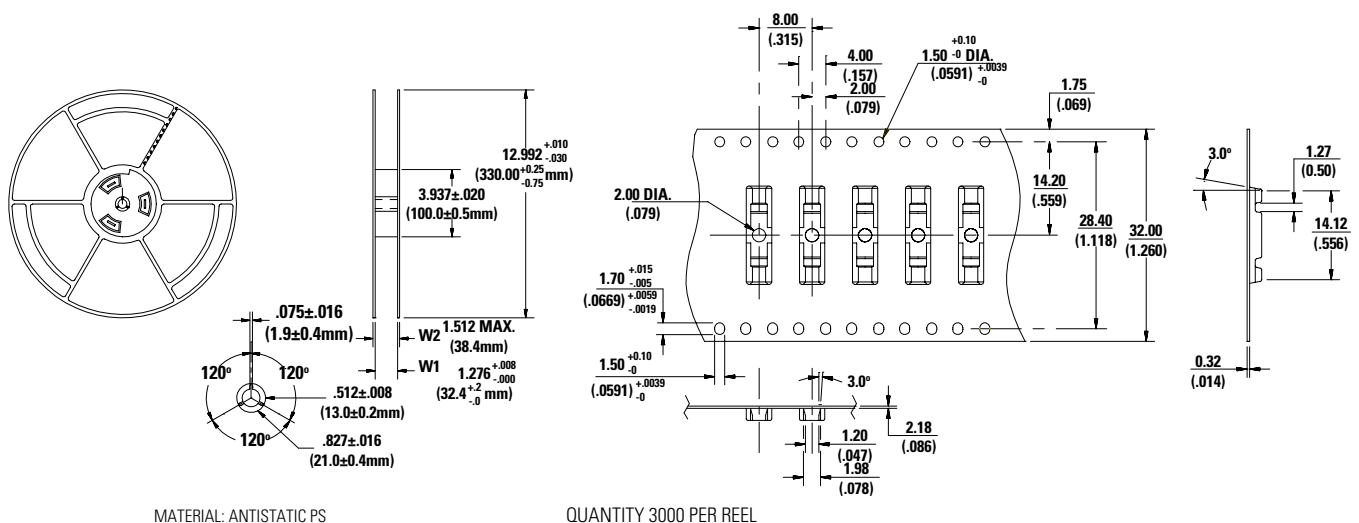
## Life Test

Switching Voltage	Life Cycles
12 Vdc, 8.3 mA, 100 Hz	50 M Cycles B10
5 Vdc, 20 mA, 100 Hz	100 M Cycles Min.
5 Vdc, 10 mA, 100 Hz	220 M Cycles B10

## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	1000	N/A	N/A
Tape and Reel	EIA-RS-481-1	3000	R	32mm

## Tape and Reel



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