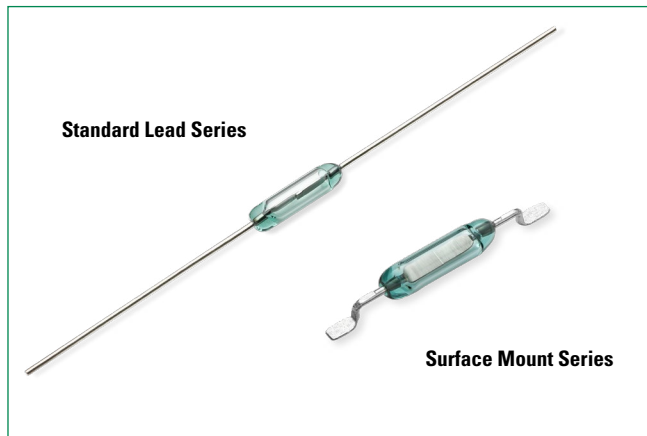


MITI-7L

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



Additional Information



Resources



Accessories

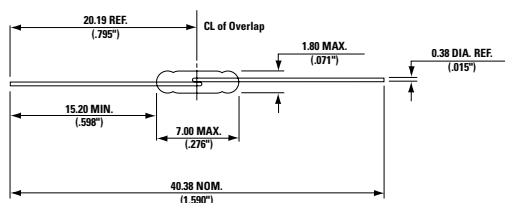


Samples

Dimensions

Dimensions in mm (inch)

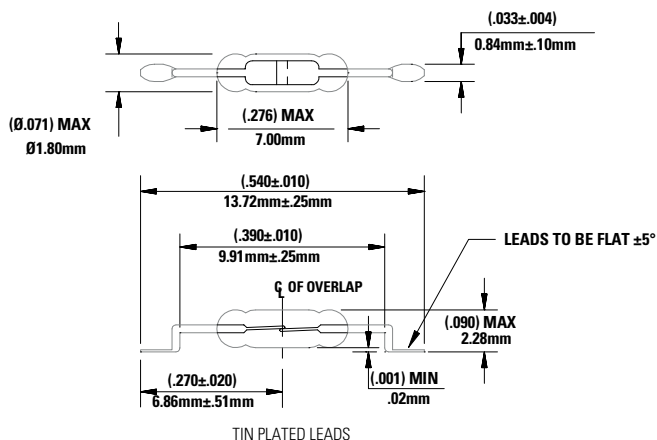
Standard Lead Series



Surface Mount Series

SWITCH TYPE: MITI-7

NOTE: CONTACT ORIENTATION AS SHOWN $\pm 30^\circ$



TIN PLATED LEADS

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^{11} 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

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 > High Reliability > 7mm > Sub-miniature

Electrical Ratings

| | | | |
|-----------------------------|------------------------|---------------|------------------|
| Contact Rating ¹ | - | Watt - max. | 10 |
| Voltage ³ | Switching ² | Vdc - max. | 170 |
| | | Vac - max. | 120 |
| | Breakdown ⁴ | Vdc - min. | 200 |
| Current ³ | Switching ² | Adc - max. | 0.25 |
| | | Aac - max. | 0.18 |
| | Carry | Adc - max. | 0.30 |
| | | Aac rms - max | 0.21 |
| Resistance | Contact, Initial | Ω - max. | 0.15 |
| | Insulation | Ω - min. | 10 ¹¹ |
| Capacitance | Contact | pF - typ. | 0.65 |
| Temperature | Operating | °C | -40 to +125 |
| | Storage ⁵ | °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.

Product Characteristics

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

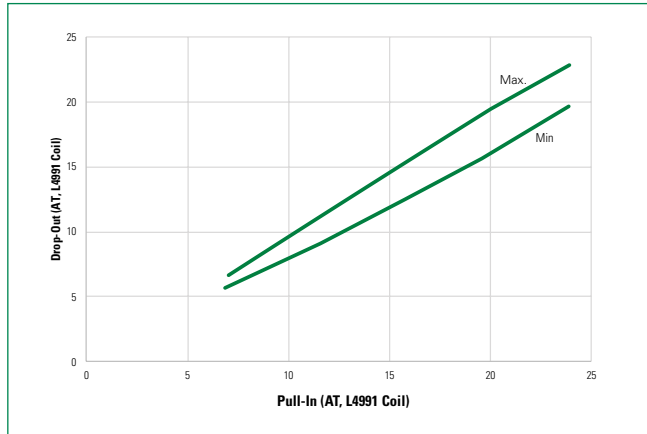
Notes:

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.
4. Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
5. Custom modifications of forming and/or cutting of reed switches are available. Please contact Littelfuse.

MITI-7L

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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

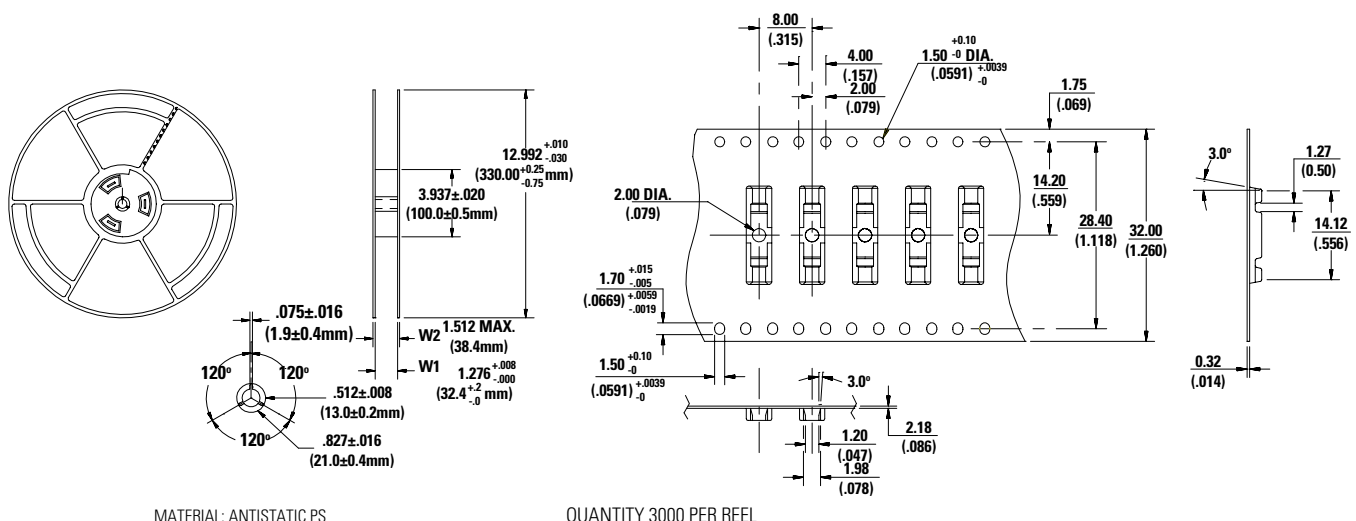
Life Test

| 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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