## MITI-3V1 7 mm Ultra-Miniature Reed Switch



## Agency Approvals

| Agency | Agency File Number | Ampere-Turns Range |
| :---: | :---: | :---: |
| $\mathbf{c - 1}$ us | E47258 | $6-10$ AT |
| $\left\langle\varepsilon_{x}\right\rangle$ | DEMKO 14 ATEX 1393U | $6-10$ AT |

## Dimensions

Dimensions in mm


## Description

The MITI-3V1 ultra-miniature reed switch is a normally open switch with a 7.00 mm long $\times 1.80 \mathrm{~mm}$ diameter ( $0.276^{\prime \prime} \times 0.071^{\prime \prime}$ ) glass envelope, which is capable of switching 170 Vdc at 10 W . It has a high insulation resistance of $10^{12}$ ohms minimum and low contact resistance of less than 150 milliohms.

The MITI-3V1 is also available in a surface mount version, that is, MISM-3V1.

## Features

- Ultra-miniature, normally open switch
- Capable of switching 170 Vdc or 0.25 A at up to 10 W


## Benefits

- Hermetically sealed switch contacts are not affected by and have no
effect on their external environment
- Very low space requirement


## Applications

- Reed relays
- Security


## Switch Type

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

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

## Electrical Ratings

| Contact Rating ${ }^{1}$ |  | Watt - max. | 10 |
| :---: | :---: | :---: | :---: |
| Voltage ${ }^{3}$ | Switching ${ }^{2}$ Breakdown ${ }^{4}$ | Vdc - max. <br> Vdc - min. | $\begin{aligned} & 170 \\ & 175 \end{aligned}$ |
| Current ${ }^{3}$ | Switching ${ }^{2}$ Carry | $\begin{aligned} & \text { A - max. } \\ & \text { A - max. } \end{aligned}$ | $\begin{gathered} 0.25 \\ 0.5 \end{gathered}$ |
| Resistance | Contact, Initial Insulation | $\begin{aligned} & \Omega-\max . \\ & \Omega-\min . \end{aligned}$ | $\begin{aligned} & 0.15 \\ & 10^{12} \end{aligned}$ |
| Capacitance | Contact | pF - typ. | 0.3 |
| Temperature | Operating Storage ${ }^{5}$ | $\begin{aligned} & { }^{\circ} \mathrm{C} \\ & { }^{\circ} \mathrm{C} \end{aligned}$ | $\begin{aligned} & -40 \text { to }+125 \\ & -65 \text { to }+125 \end{aligned}$ |

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.

## MITI-3V1 7 mm Ultra-Miniature Reed Switch

## Product Characteristics

## Operating Characteristics

| Operate Time ${ }^{1}$ |  | $0.45 \mathrm{~ms}-\mathrm{max}$. |
| :--- | :---: | :---: |
| Release Time $^{1}$ | $11 \mathrm{~ms} 1 / 2$ sine wave | $0.2 \mathrm{~ms}-\mathrm{max}$. |
| Shock $^{2}$ | $50-2000$ Hertz | $150 \mathrm{G}-\mathrm{max}$. |
| Vibration $^{2}$ |  | $30 \mathrm{G}-\mathrm{max}$. |
| Resonant Frequency | Ampere Turns | $18.0 \mathrm{kHz}-\mathrm{typ}$. |
| Magnetic Characteristics | Ampere Turns | 6-10 |
| Pull-In Range ${ }^{3}$ |  | 10 |
| Rating Sensitivity ${ }^{4}$ |  | L4991 |
| Test Coil |  |  |

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.

Drop Out vs. Pull-In Chart


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

Part Numbering System


Additional Information


## Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity \& Packaging Code | Taping Width |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bulk | Bulk | 2000 | N/A | N/A |

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