## 59170 Sub-miniature Overmolded Reed Switch +57045 Actuator



Agency Approvals

| Agency | Agency File Number |
| :---: | :---: |
| Ex. | E61760 |
| E4 | D471070 |

Note: Contact Littelfuse for specific agency approval ratings.

## Description

The 59170 is a sub-miniature overmolded reed switch $11.43 \mathrm{~mm} \times 2.29 \mathrm{~mm} x$ $2.29 \mathrm{~mm}\left(0.450^{\prime \prime} \times 0.090^{\prime \prime} \times 0.090^{\prime \prime}\right)$ with either straight or Gull Wing leads. It has normally open contact and capable of switching up to 200 Vdc at 10 W .

Note: The 57045 Actuator is sold separately.

## Features

- Two-part magnetically operated proximity switch
- Gull Wing, leaded
- Tape and reel option
- Solder reflow capable
- Thermoset overmolded material
- RoHS compliant


## Benefits

- Suitable for pick and place
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic
- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to
- Security System Switch
- Certified for use in North American Hazardous Locations: Class I, Division 2 and Zone 2
- ATEX certified for use in European explosive atmospheres: $\sum_{x} \| 3$ G Ex nC IIC Gc
or aluminium contamination


## Applications

- Position and Limit Sensing
- Door Switch


## Dimensions

Dimensions in mm (inch)


## Soldering Footprint

Dimensions in mm (inch)


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Electrical Ratings

| Contact Type |  |  | Normally Open |
| :---: | :---: | :---: | :---: |
| Switch Type |  |  | 1 |
| Contact Rating ${ }^{1}$ |  | VANatt - max. | 10 |
| Voltage ${ }^{3}$ | Switching ${ }^{2}$ <br> Breakdown ${ }^{4}$ | Vdc - max. <br> Vac - max <br> Vdc - min. | $\begin{aligned} & 200 \\ & 140 \\ & 250 \end{aligned}$ |
| Current ${ }^{3}$ | Switching ${ }^{2}$ <br> Carry | Adc - max. <br> Aac - max. <br> Adc - max. | $\begin{gathered} 0.5 \\ 0.35 \\ 1 \mathrm{~A} \end{gathered}$ |
| Resistance | Contact, Initial Insulation | $\begin{aligned} & \Omega-\max . \\ & \Omega-\min . \end{aligned}$ | $\begin{aligned} & 0.120 \text { Ohm } \\ & 10^{10} \end{aligned}$ |
| Capacitance | Contact | pF - typ. | 0.3 |
| Temperature | Operating | ${ }^{\circ} \mathrm{C}$ | -40 to +125 |
| Product Characteristics |  |  |  |
| Operate Time ${ }^{5}$ |  | ms - max. | 0.5 |
| Release Time ${ }^{5}$ |  | ms - max. | 0.1 |
| Shock ${ }^{6}$ | $11 \mathrm{~ms} 1 / 2$ sine | G - max. | 100 |
| Vibration ${ }^{6}$ | $50-2000 \mathrm{~Hz}$ | G - max. | 30 |

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. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
6. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.

## Sensitivity Options (Using 57045 Actuator)

| Select Option |  | S |  | T |  | U |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | itch Type | Pull-In AT Range | Activate Distance, D mm (inch) Average | Pull-In AT Range | Activate Distance, D mm (inch) Average | Pull-In AT Range | Activate Distance, D mm (inch) Average |
| 1 | Normally Open | 10-15 | 6.5 (.255) | 15-20 | 5.0 (.197) | 20-25 | 4.6 (.181) |

Note:

1. Pull-In AT Range: These AT values are the before molding and modification AT of the 59170 .
2. The activation distance is average value post modification for the Gull wing option C or D .

## Termination Specification

|  | Termination Options |
| :---: | :---: |
| Select Option | Description |
| A | Leaded |
| C | Gull Wing bulk packed |
| D | Gull Wing tape and reel |



Expertise Applied | Answers Delivered

## 59170 Sub-miniature Overmolded Reed Switch +57045 Actuator

## Part Numbering System



## Product Marking



Packaging

| Packaging Option | Packaging Specification | Quantity | Termination and Packaging Code | Taping Width |
| :---: | :---: | :---: | :---: | :---: |
| Bulk | Bulk | $59170-1-X-00-A 800 / b 0 x$ | A | N/A |
| Bulk | Bulk | $59170-1-X-00-C 1500 / b 0 x$ | C | N/A |
| Tape and Reel | EIA-RS-481-1 | 1500 | D | 32.00mm (1.260") |

