## Overmolded Reed Switches

Low Power > 59045
59045 Miniature PCB Mountable Reed Switch +57045 Actuator


Agency Approvals

| Agency | Agency File Number |
| :---: | :---: |
| c ${ }^{-1}$ | $\begin{aligned} & \text { E61760 } \\ & \text { E471070 } \end{aligned}$ |
| \&x | DEMKO 14 ATEX 1393 U Ex II 3 G ExnC IIC Gc |

Note: Contact Littelfuse for specific agency approval ratings.

## Description

The 59045 is a miniature PCB-mountable reed switch, $17.78 \mathrm{~mm} \times 4.32 \mathrm{~mm} x$ $3.3 \mathrm{~mm}\left(0.700^{\prime \prime} \times 0.170^{\prime \prime} \times 0.130^{\prime \prime}\right)$ with a normally open contact. It has moulded stand-offs to allow board washing. It is capable of switching up to 200Vdc at 10W. It functions best with the matching actuator 57045-000.
Note: The 57045 Actuator is sold separately.

## Features

- Two-part magnetically operated proximity switch
- Normally open contact configuration
- Moulded stand-offs to allow board washing
- Wave solder capable


## Benefits

- Mounts directly into printed circuit board
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic or aluminium
- Certified for use in North American Hazardous Locations: Class I, Division 2 and Zone 2
- ATEX certified for use in European explosive atmospheres: ${\sum \sum_{x} \|}_{\|} \|$G ExnC IIC Gc
- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to contamination


## Applications

- Position and Limit Sensing
- Door Switch


## Dimensions

Dimensions in mm (inch)


|  | A Max. | B <br> Max. | $\begin{gathered} \text { C } \\ \pm 0.25(.010) \end{gathered}$ | D <br> Max. | $\begin{gathered} \text { E } \\ \pm 0.38(.015) \end{gathered}$ | F <br> Nom. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 57045 Actuator | $\begin{aligned} & 4.32 \\ & (.170) \end{aligned}$ | $\begin{aligned} & 17.78 \\ & (.700) \end{aligned}$ | * | $\begin{gathered} 3.3 \\ (.130) \end{gathered}$ | - | - |
| 59045 Switch | $\begin{aligned} & 4.32 \\ & (.170) \end{aligned}$ | $\begin{aligned} & 17.78 \\ & (.700) \end{aligned}$ | $\begin{aligned} & 15.24 \\ & (.600) \end{aligned}$ | $\begin{gathered} 3.3 \\ (.130) \end{gathered}$ | $\begin{gathered} 3.3 \\ (.130) \end{gathered}$ | $\begin{gathered} 0.4699 \\ \text { (.0185") Dia. } \end{gathered}$ |

[^0]
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Electrical Ratings

| Contact Type |  |  | Normally Open |
| :---: | :---: | :---: | :---: |
| Switch Type |  |  | 1 |
| Contact Rating ${ }^{1}$ |  | VAMWatt - 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. | $\begin{gathered} 0.5 \\ 0.35 \\ 1.2 \end{gathered}$ |
| Resistance | Contact, Initial Insulation | $\begin{aligned} & \Omega-\max . \\ & \Omega-\min . \end{aligned}$ | $\begin{aligned} & 0.2 \\ & 10^{10} \end{aligned}$ |
| Capacitance | Contact | pF - typ. | 0.3 |
| Temperature | Operating | ${ }^{\circ} \mathrm{C}$ | -40 to +105 |

## Product Characteristics

| Operate Time ${ }^{5}$ |  | ms - max. | 1.0 |
| :--- | :---: | :---: | :---: |
| Release Time ${ }^{5}$ |  | ms - max. | 1.0 |
| 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 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Switch 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 | 15-20 | 5.0 (.196) | 20-25 | 4.3 (.170) | 25-30 | 3.8 (.150) |

Note:
Pull-In Range - Contact Littelfuse for narrower AT ranges available. These AT values are the before molding and modification AT of the 59045 .


## 59045 Miniature PCB Mountable Reed Switch +57045 Actuator

## Part Numbering System



## Product Marking

Switch:


## Actuator:



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity and Packaging Code | Taping Width |
| :---: | :---: | :---: | :---: | :---: |
| Bulk | Bulk | $200 / B 0 x$ | N/A | N/A |

## Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery \& Lifecycle Information:

Littelfuse:
59045-010 59045-1-U-00-0 59045-1-S-00-0 59045-1-T-00-0


[^0]:    * Mounting: 1.57 (.062) thick board, 3.17 (.125) holes on $13.72 \mathrm{~mm}(.540)$ centerline.

