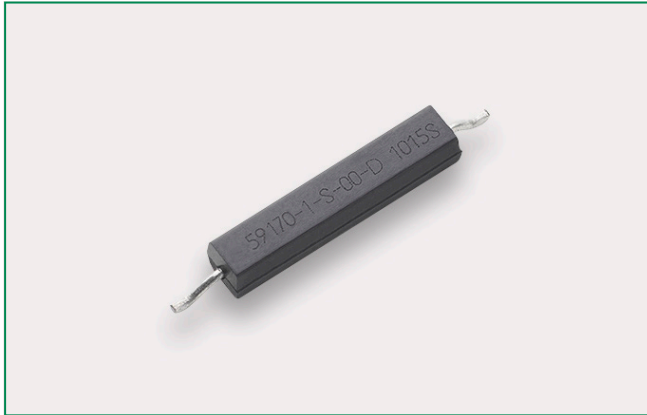


59170 Sub-miniature Overmolded Reed Switch + 57045 Actuator



Description

The 59170 is a sub-miniature overmolded reed switch 11.43mm x 2.29mm x 2.29mm (0.450" x 0.090" x 0.090") with either straight or Gull Wing leads. It has normally open contact and capable of switching up to 200Vdc at 10W.

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
- Certified for use in North American Hazardous Locations: Class I, Division 2 and Zone 2
- ATEX certified for use in European explosive atmospheres: Ex II 3 G Ex nC IIC Gc

Agency Approvals

| Agency | Agency File Number |
|--------|---|
| | E61760 E471070 |
| | DEMKO 14 ATEX 1393U Ex II 3 G Ex nC IIC Gc |

Note: Contact Littelfuse for specific agency approval ratings.

Benefits

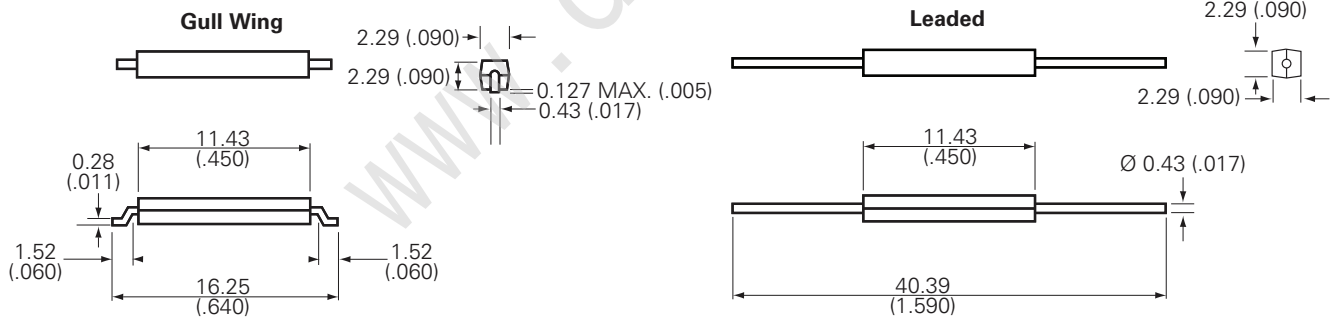
- Suitable for pick and place
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic or aluminium
- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to contamination

Applications

- Position and Limit Sensing
- Security System Switch
- Door Switch

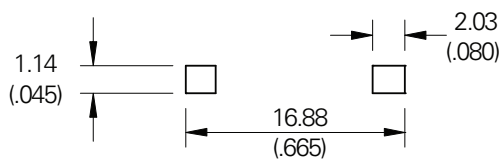
Dimensions

Dimensions in mm (inch)



Soldering Footprint

Dimensions in mm (inch)



59170 Sub-miniature Overmolded Reed Switch + 57045 Actuator

Electrical Ratings

| Contact Type | | | Normally Open |
|-----------------------------|-----------------------------|----------------------|-------------------------|
| Switch Type | | | 1 |
| Contact Rating ¹ | | VA/Watt - max. | 10 |
| Voltage ³ | Switching ² | Vdc - max. | 200 |
| | Breakdown ⁴ | Vac - max. | 140 |
| | | Vdc - min. | 250 |
| Current ³ | Switching ² | Adc - max. | 0.5 |
| | | Aac - max. | 0.35 |
| | Carry | Adc - max. | 0.8 |
| Resistance | Contact, Initial Insulation | Ω - max. Ω - min. | 0.1 10 ¹⁰ |
| Capacitance | Contact | pF - typ. | 0.3 |
| Temperature | Operating | °C | -40 to +125 |

Product Characteristics

| | | | |
|---------------------------|-------------|-----------|-----|
| Operate Time ⁵ | | ms - max. | 1.0 |
| Release Time ⁵ | | ms - max. | 0.5 |
| Shock ⁶ | 11ms ½ sine | G - max. | 100 |
| Vibration ⁶ | 50-2000 Hz | G - max. | 30 |

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

Sensitivity Options (Using 57045 Actuator)

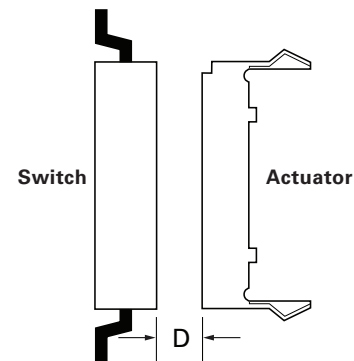
| Select Option | | S | | T | | U | |
|---------------|---------------|------------------|--|------------------|--|------------------|--|
| Switch Type | | Pull-In AT Range | Activate Distance, D mm (inch) Average | Pull-In AT Range | Activate Distance, D mm (inch) Average | Pull-In AT Range | Activate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

Note:

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

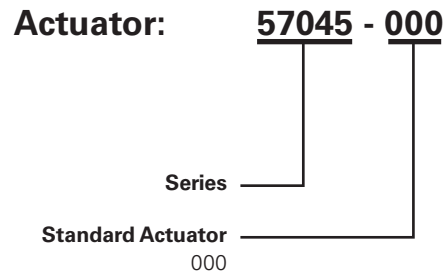
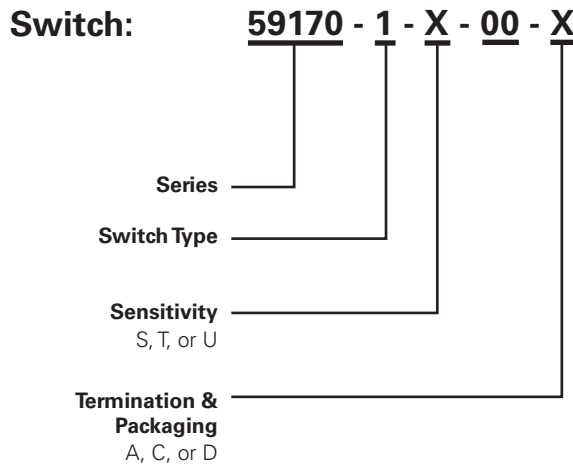
Termination Specification

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



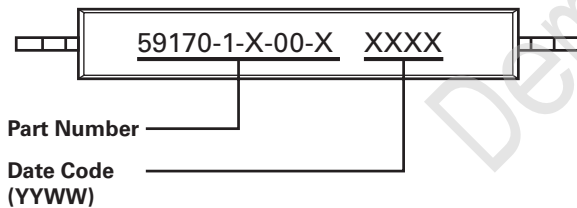
59170 Sub-miniature Overmolded Reed Switch + 57045 Actuator

Part Numbering System



Note: The 57045 Actuator is sold separately.

Product Marking



Packaging

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