

59177 Series

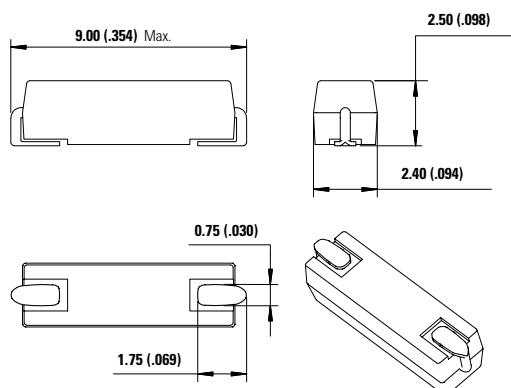
Ultra-miniature Overmolded Reed Switch

RoHS

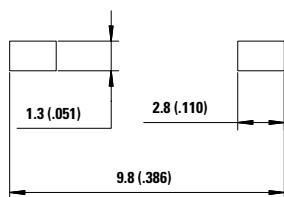


Dimensions in mm (inch)

Inward formed J-Shaped



Recommended Soldering Footprint, mm(inch)



Description

The 59177 is an ultra-miniature overmolded reed switch 9.0mm x 2.5mm x 2.4mm (0.354" x 0.098" x 0.094") body with smallest type footprint. It is capable of switching 170Vdc or 0.25A at up to 10W. Available in select sensitivity ranges.

Note: The part can function with any of the Littelfuse provided magnets or actuators

Features & Benefits

- Ultra-miniature size
- Available in select sensitivities (operating distances)
- Thermoset overmold material for added robustness
- Solder reflow compliant to IPC-A-610 standard
- Suitable for pick and place
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic or aluminum
- Hermetically sealed, magnetically operated contacts
- Tape and reel packaging

Applications

- Security and access control
- Metering
- Battery powered consumer electronics & wearables
- Factory automation
- Process equipment
- Small appliances
- Proximity and limit sensing

PRELIMINARY

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Ultra-miniature Overmolded Reed Switch

Electrical Ratings

| Contact Type | | Normally Open | |
|---------------------------|---------------------------------|--|--------------------------|
| Switch Type | | | 1 |
| Switch Type | | VA/Watt - max. | 10 |
| Voltage ³ | Switching ² | Vdc - max. Vac - max. Vdc - min. | 170 120 175 |
| Current ³ | Switching ² Carry | Adc - max. Aac - max. Adc - max. | 0.25 0.18 0.50 |
| Resistance | Contact, Initial Insulation | Ω - max. Ω - min. | 0.22 10 ¹² |
| Capacitance | Contact | pF - typ. | 0.30 |
| Temperature | Operating | °C | -40 to +125 |
| Product Characteristics | | | |
| Operate Time ⁵ | | ms - max. | 0.5 |
| Release Time ⁵ | | ms - max. | 0.2 |
| Shock ⁶ | 11ms ½ sine | G - max. | 100 |
| Vibration ⁶ | 50-2000 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)

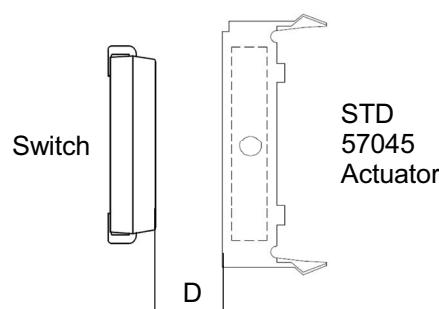
| Select Option | | S | | | T | | | U | | |
|---------------|---------------|----------|------------------------|--------------------------|----------|------------------------|--------------------------|----------|------------------------|--------------------------|
| | Switch Type | Pull-In | Activate Distance (mm) | Deactivate Distance (mm) | Pull-In | Activate Distance (mm) | Deactivate Distance (mm) | Pull-In | Activate Distance (mm) | Deactivate Distance (mm) |
| | | AT Range | AT Range | AT Range | AT Range | AT Range | AT Range | AT Range | AT Range | AT Range |
| 1 | Normally Open | 6-10 | 3.8-5.9 | 3.6-6.8 | 10-15 | 3.0-5.5 | 3.6-6.3 | 15-20 | 2.5-4.6 | 3.7-5.8 |

Note:

1. Pull-In AT Range: These AT values are the before molding and modification AT of the 59177.
2. The activation distance is average value post modification for the J type leads option Dv.

Termination Specification

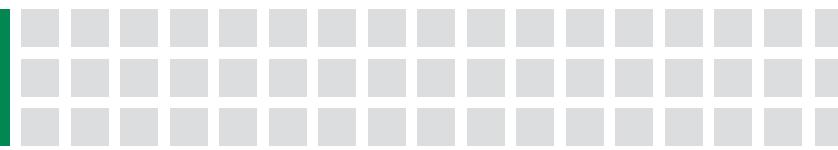
| Termination Options | |
|---------------------|-----------------------------|
| Select Option | Description |
| D | J type leads, tape and reel |



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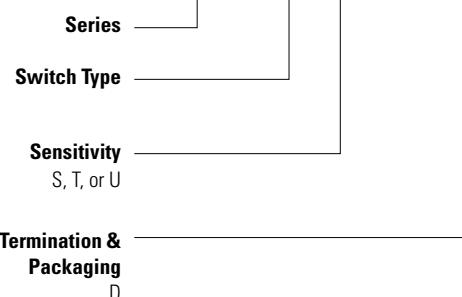
Ultra-miniature Overmolded Reed Switch



Part Numbering System

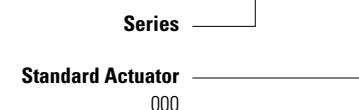
Switch:

59177 - 1 - X - 00 - X



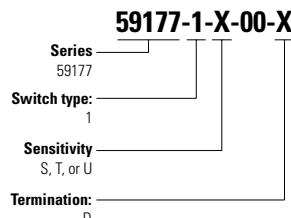
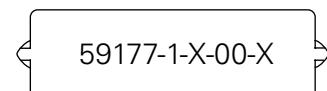
Actuator:

57045 - 000



Note: The 57045 Actuator is sold separately.

Product Marking



Packaging

| Packaging Option | Packaging Specification | Quantity | Termination and Packaging Code | Taping Width |
|------------------|-------------------------|-----------|--------------------------------|--------------|
| Tape and Reel | EIA-RS-481-1 | 3000/reel | D | 16mm (0.63") |

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