

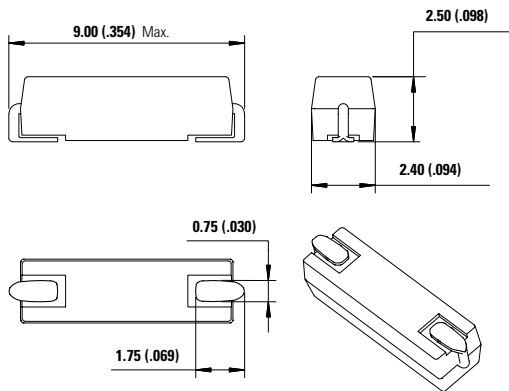
# 59177 Series

## Ultra-miniature Overmolded Reed Switch

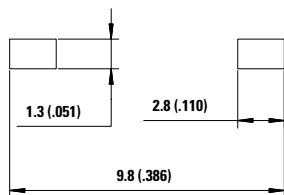


### Dimensions in mm (inch)

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
- ATEX certified for use in European explosive atmospheres: II 3 G Ex nC IIC Gc

### Applications

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

### Agency Approvals

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

**Note:** Contact Littelfuse for specific agency approval ratings.

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### Electrical Ratings

Contact Type			Normally Open
Switch Type			1
Switch Type		VA/Watt - max.	10
Voltage <sup>3</sup>	Switching <sup>2</sup>	Vdc - max.	170
		Vac - max.	120
	Breakdown <sup>4</sup>	Vdc - min.	175
Current <sup>3</sup>	Switching <sup>2</sup>	Adc - max.	0.25
		Aac - max.	0.18
	Carry	Adc - max.	0.50
Resistance	Contact, Initial	Ω - max.	0.22
	Insulation	Ω - min.	10 <sup>12</sup>
Capacitance	Contact	pF - typ.	0.30
Temperature	Operating	°C	-40 to +125
Product Characteristics			
Operate Time <sup>5</sup>		ms - max.	0.5
Release Time <sup>5</sup>		ms - max.	0.2
Shock <sup>6</sup>	11ms ½ sine	G - max.	100
Vibration <sup>6</sup>	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)

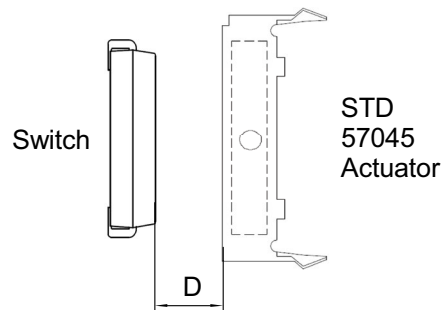
Select Option		S			T			U		
Switch Type	AT Range	Pull-In	Activate Distance (mm)	Deactivate Distance (mm)	Pull-In	Activate Distance (mm)	Deactivate Distance (mm)	Pull-In	Activate Distance (mm)	Deactivate Distance (mm)
1	Normally Open	6-10	3.8-5.9	3.6-6.8	10-15	3.0-5.5	3.6-6.3	15-20	2.5-4.6	3.7-5.8

**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

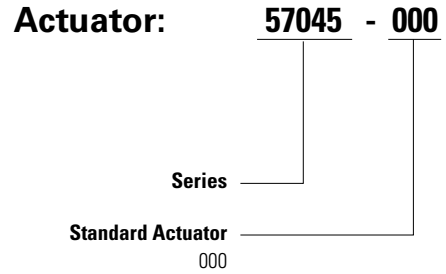
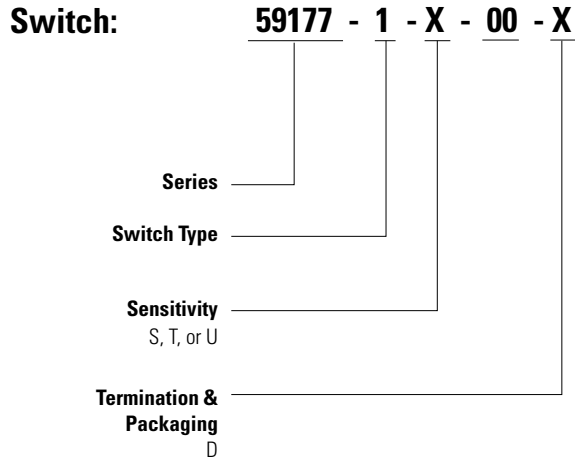
Termination Options	
Select Option	Description
D	J type leads, tape and reel



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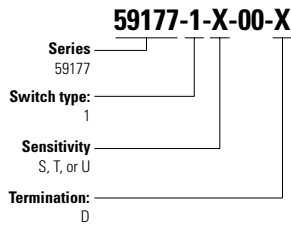
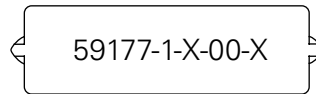
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### Part Numbering System



**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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