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**Carling Technologies®**

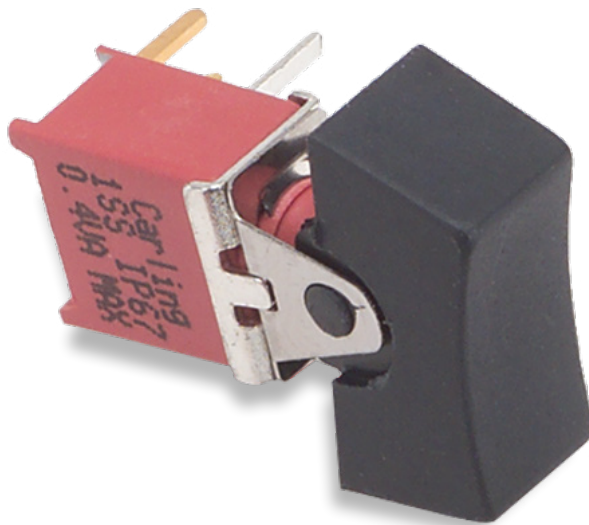
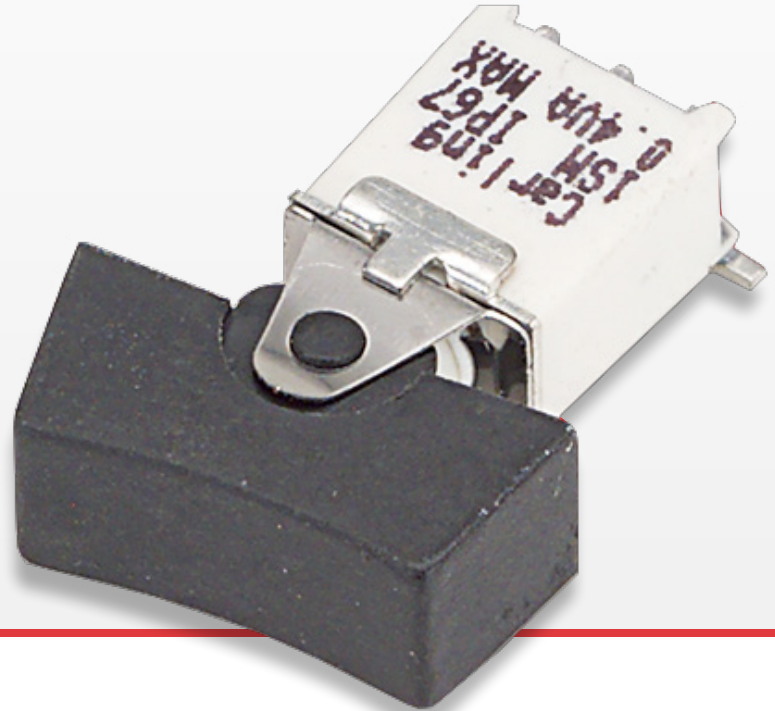
A Littelfuse® Brand

# 1S-Series

Miniature Rockers & Paddles

**PRODUCT WEBPAGE**

*request sample, configure part*



The 1S family of sub-miniature rocker switches is composed of three switch series; the 1S1-Series sub-miniature rocker switch, the 1SS-Series sealed sub-miniature rocker switch, and the 1SM-Series surface mount sealed sub-miniature rocker switch. All of these series offer a variety of ratings, circuits, contact materials, terminal platings, and actuator colors.

**1-2**

Poles

**.4-3**

Amps

**125, 250**

VAC

**28**

VDC

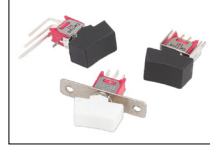
## Typical Applications

- Instrumentation
- Telecommunications
- Handheld Appliances
- Test Equipment
- Networking
- Medical Equipment

# Tech Specs



**ISS-Series**  
Sealed  
Sub-Miniature  
Rocker Switch



**ISI-Series**  
Sub-Miniature  
Rocker Switch



**ISM-Series**  
Sealed Surface Mount  
Sub-Miniature  
Rocker Switch

## Electrical

|                       |                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Contact Rating        | refer to ordering scheme                                                                                                         |
| Electrical Life       | <b>ISI-Series:</b> 30,000 make & break cycles @ full load<br><b>ISS &amp; ISM-Series:</b> 50,000 make & break cycles @ full load |
| Contact Resistance    | 20 mΩ max. initial @ 2-4 VDC<br>100mA for both silver & gold plated contacts                                                     |
| Insulation Resistance | 1000 MΩ min.                                                                                                                     |
| Dielectric Strength   | 1500 Volts RMS @ sea level                                                                                                       |

## Physical

|                        |                         |
|------------------------|-------------------------|
| Operating Temperature  | -30°C to +85°C          |
| Index of Protection    | 1SS & 1SM-Series: IP67  |
| Solder Heat Resistance | MIL-STD-202, Method 210 |
| Actuator Travel        | 25°                     |

## Material

|                |                                                                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Case           | all UL94 V-0<br><b>ISI-Series:</b> Diallyl phthalate (DAP)<br><b>ISS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized<br><b>ISM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized    |
| Rocker         | <b>ISI-Series:</b> Nylon (UL 94V-0)<br><b>ISS &amp; ISM-Series:</b> Nylon, black standard, internal o-ring sealed                                                                                                           |
| Bushing        | <b>ISI-Series:</b> Brass, nickel plated<br><b>ISS-Series:</b> Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)<br><b>ISM-Series:</b> Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0) |
| Housing        | <b>ISI-Series:</b> Stainless Steel                                                                                                                                                                                          |
| Switch Support | <b>ISI &amp; ISM-Series:</b> Brass, tin plated                                                                                                                                                                              |
| Terminal Seal  | Epoxy                                                                                                                                                                                                                       |

# Ordering Scheme

Sample Part Number: **1SS - WMSP 1 - R2 / 2 M2 G E**

Selection: 1 2 3 4 5 6 7 8

### 1. SERIES

**1SS** Sealed Sub-Miniature Rocker Switch

### 2. POLES

**WMSP** Single pole - uses terminals 1, 2 & 3  
**WMDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

### 3. CIRCUIT

( ) - momentary  
Position: 1 2 3

|   |          |      |                     |      |          |
|---|----------|------|---------------------|------|----------|
| 1 | 2-3, 5-6 | 2    | Connected Terminals | 3    | 2-1, 5-4 |
| 1 | ON       | NONE | ON                  | (ON) |          |
| 2 | ON       | NONE | (ON)                |      |          |
| 3 | ON       | OFF  | ON                  |      |          |
| 4 | (ON)     | OFF  | (ON)                |      |          |
| 5 | ON       | OFF  | (ON)                |      |          |

### 4. ACTUATOR STYLE

**R1** Small Rocker  
**R2** Narrow Black Rocker

### 5. ACTUATOR COLOR

1 White  
2 Black  
3 Red  
Other colors available, consult factory.

### 6. TERMINATION

|                                    |                                               |
|------------------------------------|-----------------------------------------------|
| <b>M1</b> Solder Lug               | <b>M61</b> Snap-In, U bracket, 90° horizontal |
| <b>M2</b> PCB                      | <b>M71</b> Snap-In, U bracket, 90° horizontal |
| <b>M6</b> PC Mount, 90° horizontal | <b>VS21</b> Snap-In, U bracket                |
| <b>M7</b> PC Mount, 90° vertical   |                                               |
| <b>VS2</b> PC Mount, U bracket     |                                               |

See dimensional specifications.

### 7. CONTACTS / TERMINALS

| Contact Material               | Terminal Plating    | Rating                          | Approvals |
|--------------------------------|---------------------|---------------------------------|-----------|
| <b>G</b> silver <sup>1</sup>   | gold over silver    | 3A 125VAC or 28VDC, 1.5A 250VAC | IP67      |
| <b>K</b> gold <sup>2,5</sup>   | tin <sup>4</sup>    | 0.4VA max 20V max (AC/DC)       | IP67      |
| <b>P</b> silver <sup>1,6</sup> | tin <sup>4</sup>    | 3A 125VAC or 28VDC, 1.5A 250VAC | IP67      |
| <b>R</b> gold <sup>2</sup>     | gold <sup>2,3</sup> | 0.4VA max 20V max (AC/DC)       | IP67      |

### 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

Notes: Tin option not available with M1 terminal.

- 1 Movable contact and terminal platings: silver over copper alloy
- 2 Movable contact platings: gold over nickel over copper alloy
- 3 Terminal platings: gold over nickel over copper alloy
- 4 Terminal platings: tin over copper alloy
- 5 Terminal contact platings: gold over nickel alloy
- 6 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Sample Part Number 1S1 - MSP 1 - R2 / 2 M6 Q E

Selection 1 2 3 4 5 6 7 8

## 1. SERIES

**1S1** Sub-Miniature Rocker Switch

## 2. POLES

**MSP** Single pole - uses terminals 1, 2 & 3  
**MDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 1 2-3, 5-6 Connected Terminals 2-1, 5-4  
 2 ON NONE ON  
 3 ON NONE (ON)  
 4 ON OFF ON  
 5 (ON) OFF (ON)  
 6 ON OFF (ON)

## 4. ACTUATOR STYLE

**R1** Small Rocker  
**R2** Narrow Black Rocker  
**R3** Medium Rocker

## 5. ACTUATOR COLOR

**1** White  
**2** Black  
**3** Red  
 Other colors available, consult factory.

## 6. TERMINATION

**M1** Solder Lug  
**M2** PCB  
**M6** PC Mount, 90° horizontal  
**M7** PC Mount, 90° vertical  
**VS2** PC Mount, U bracket  
**VS3** PC Mount, U bracket  
**M61** Snap-In, U bracket, 90° horizontal  
**M71** Snap-In, U bracket, 90° horizontal  
**VS21** Snap-In, U bracket  
 See dimensional specifications.

## 7. CONTACTS / TERMINALS

| Contact Material             | Terminal Plating                   | Rating                        | Approvals |
|------------------------------|------------------------------------|-------------------------------|-----------|
| <b>G</b> silver <sup>1</sup> | gold over silver<br>1.5A 250VAC    | 3A 125VAC or 28VDC,           | UL, CE    |
| <b>K</b> gold <sup>2</sup>   | tin <sup>3</sup>                   | 0.4VA max 20V max (AC/DC) N/A |           |
| <b>P</b> silver <sup>1</sup> | tin <sup>3</sup><br>1.5A 250VAC    | 3A 125VAC or 28VDC,           | UL, CE    |
| <b>Q</b> silver <sup>1</sup> | silver <sup>1</sup><br>1.5A 250VAC | 3A 125VAC or 28VDC,           | UL, CE    |
| <b>R</b> gold <sup>2</sup>   | gold <sup>2</sup>                  | 0.4VA max 20V max (AC/DC) N/A |           |

## 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

Notes:  
 Tin option available with M1 termination.  
 1 Movable contact and terminal platings: silver over copper alloy  
 2 Movable contact and terminal platings: gold over nickel over copper alloy  
 3 Terminal platings: tin over nickel over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Sample Part Number 1SM - WMSP 1 - R2 - M2 G E

Selection 1 2 3 4 5 6 7

## 1. SERIES

**1SM** Sealed Surface Mount Sub-Miniature Rocker Switch

## 2. POLES

**WMSP** Single pole - uses terminals 1, 2 & 3

## 3. CIRCUIT

( ) - momentary  
**Position:** **1** **2** **3**  
 1 2-3 Connected Terminals 2-1  
 2 ON NONE ON  
 3 ON NONE (ON)  
 4 ON OFF ON  
 5 (ON) OFF (ON)  
 6 ON OFF (ON)

## 4. ACTUATOR STYLE

**R2** Narrow Black Rocker

## 5. TERMINATION

**M6** Surface Mount, 90° flat - horizontal / side  
**S6** Surface Mount, 90° horizontal / back  
**S7** Surface Mount, 90° vertical  
 See dimensional specifications.

## 6. CONTACTS / TERMINALS

| Contact Material               | Terminal Plating    | Rating                    | Approvals        |
|--------------------------------|---------------------|---------------------------|------------------|
| <b>G</b> silver <sup>1</sup>   | gold over silver    | 3A 125VAC or 28VDC,       | IP67             |
| <b>K</b> gold <sup>2,5</sup>   | tin <sup>4</sup>    | 0.4VA max 20V max (AC/DC) | 1.5A 250VAC IP67 |
| <b>P</b> silver <sup>1,6</sup> | tin <sup>4</sup>    | 3A 125VAC or 28VDC,       | 1.5A 250VAC IP67 |
| <b>Q</b> silver <sup>1</sup>   | silver <sup>1</sup> | 3A 125VAC or 28VDC,       | 1.5A 250VAC IP67 |
| <b>R</b> gold <sup>2</sup>     | gold <sup>3</sup>   | 0.4VA max 20V max (AC/DC) | IP67             |

## 7. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

## 8. PACKAGING

**T/R** tape reel - 500 pieces per reel  
 Switches are bulk packed, unless T/R is specified at the end of the part number.

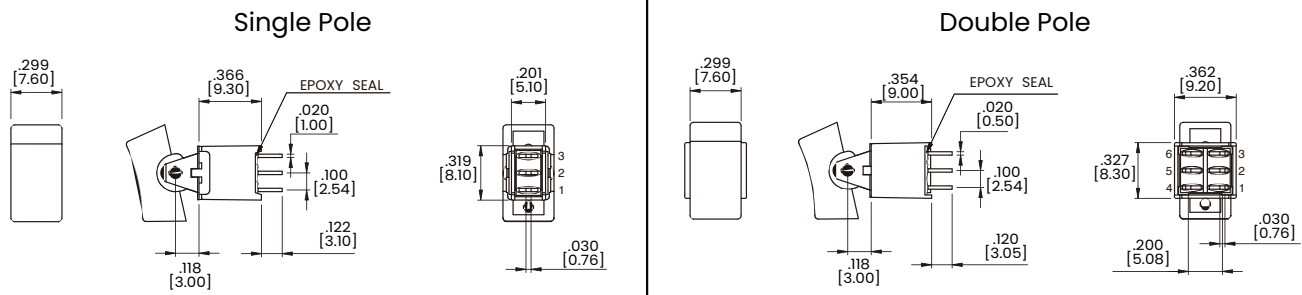
Notes:  
 Tin option not available with M1 termination.  
 1 Movable contact and terminal platings: silver over copper alloy  
 2 Movable contact platings: gold over nickel over copper alloy  
 3 Terminal platings: gold over nickel over copper alloy  
 4 Terminal platings: tin over copper alloy  
 5 Terminal contact platings: gold over nickel alloy  
 6 Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

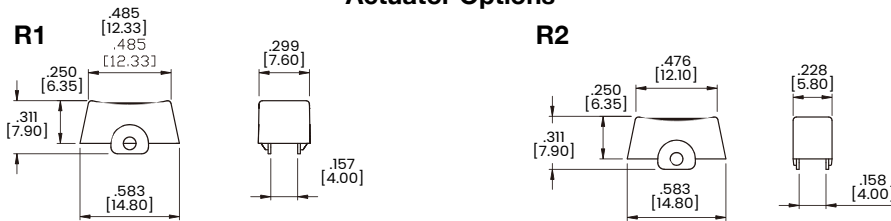
[Browse Standard Parts >](#)

# Dimensional Specs

inches [millimeters]

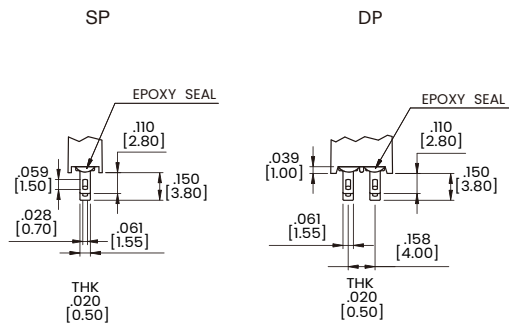


## Actuator Options

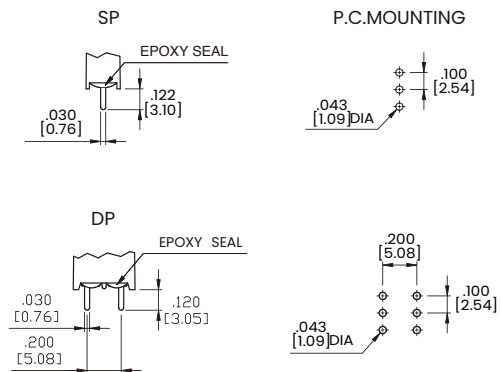


## Termination Options

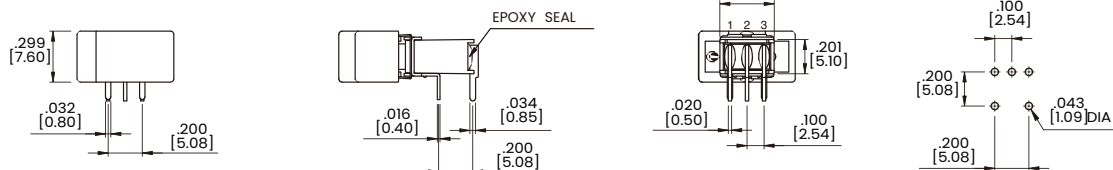
### M1 STD. Solder Lug



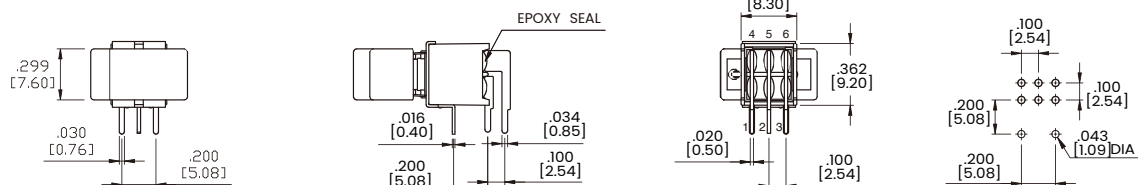
### M2 PC Thru-Hole



### M6 Single Pole



### M6 Double Pole

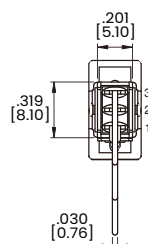
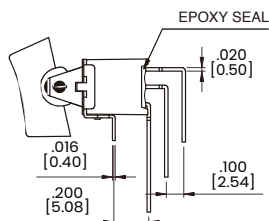
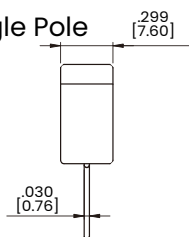


# Dimensional Specs

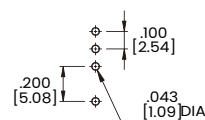
inches [millimeters]

## Termination Options

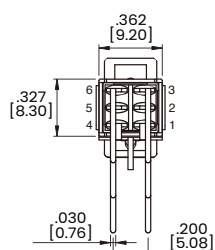
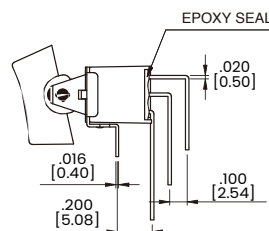
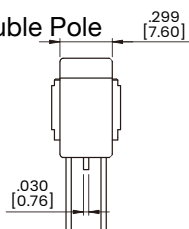
### M7 Single Pole



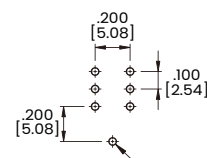
### P.C.MOUNTING



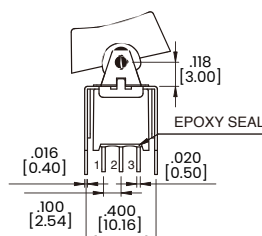
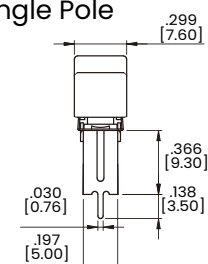
### M7 Double Pole



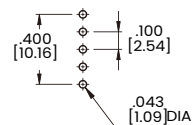
### P.C.MOUNTING



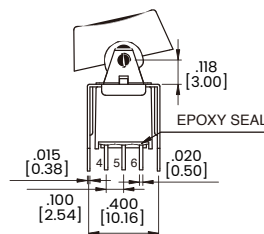
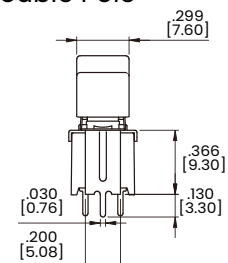
### VS2 Single Pole



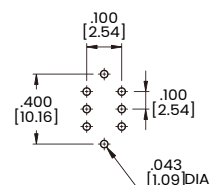
### P.C.MOUNTING



### VS2 Double Pole

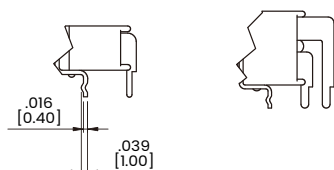


### P.C.MOUNTING

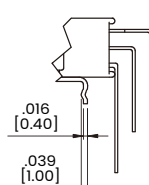


## Snap-In Termination Options

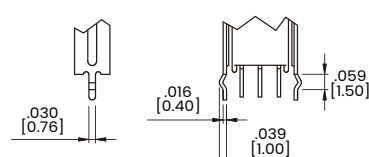
### M61



### M71



### VS21

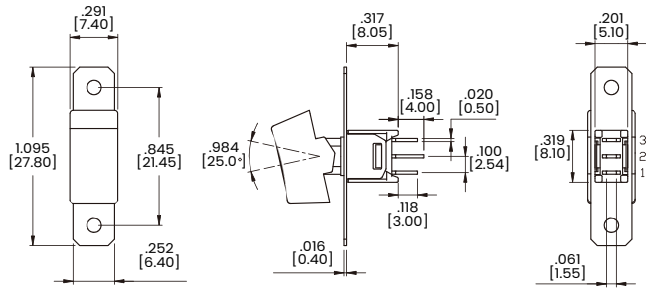


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

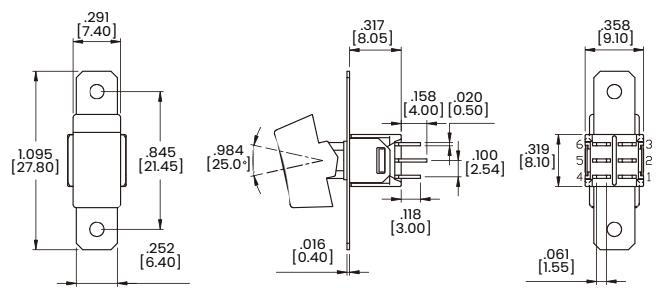
# Dimensional Specs

inches [millimeters]

## Single Pole

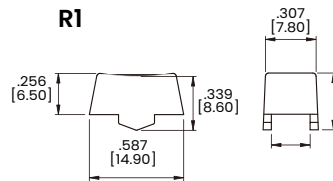


## Double Pole

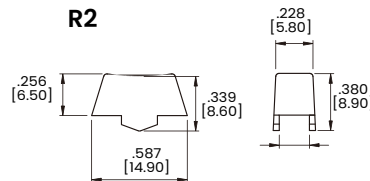


## Actuator Options

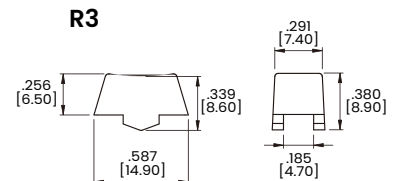
### R1



### R2



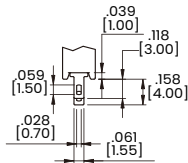
### R3



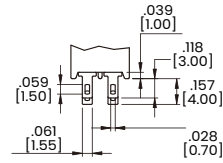
## Termination Options

### M1 STD. Solder Lug

#### Single Pole

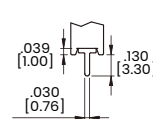


#### Double Pole

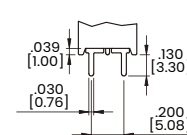


### M2 PC Thru-Hole

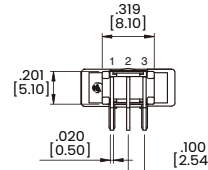
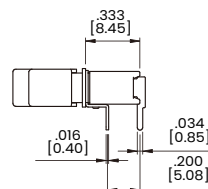
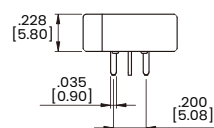
#### Single Pole



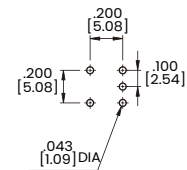
#### Double Pole



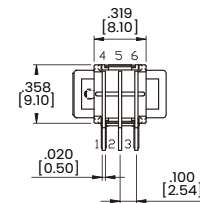
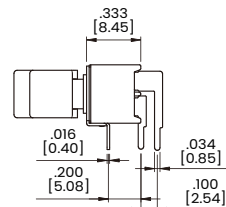
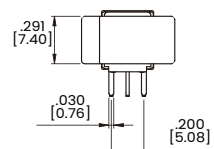
### M6 Single Pole



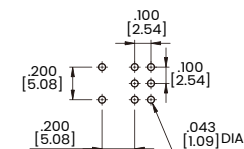
### P.C.MOUNTING



### M6 Double Pole



### P.C.MOUNTING

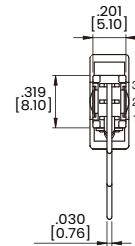
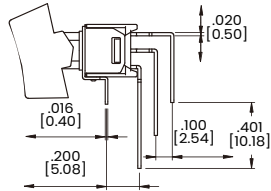
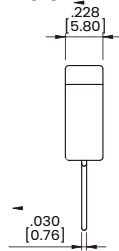


# Dimensional Specs

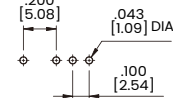
inches [millimeters]

## Termination Options

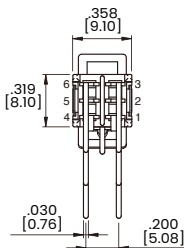
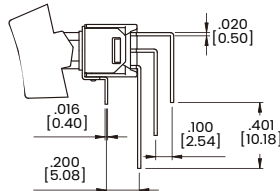
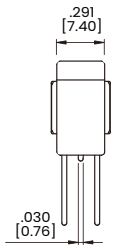
### M7 Single Pole



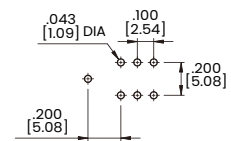
### P.C.MOUNTING



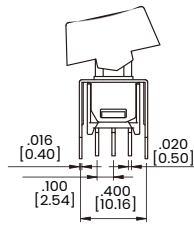
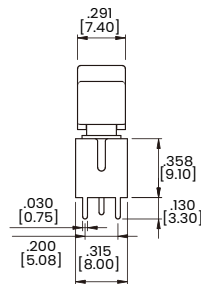
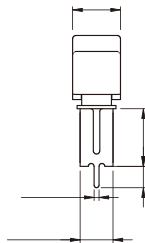
### M7 Double Pole



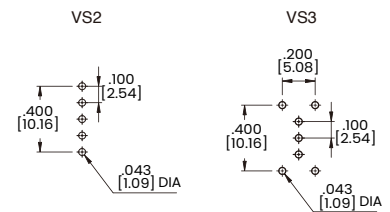
### P.C.MOUNTING



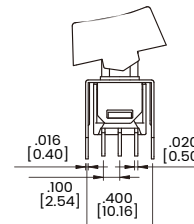
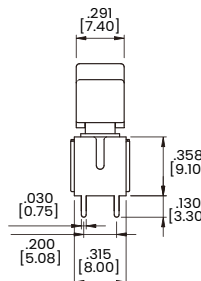
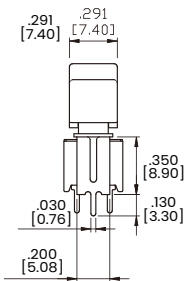
### VS2-VS3 Single Pole



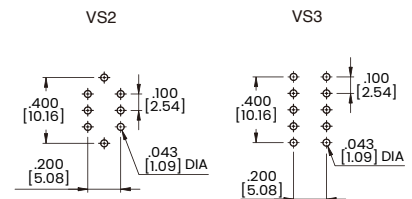
### P.C.MOUNTING



### VS2-VS3 Double Pole

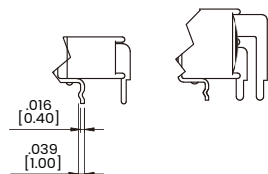


### P.C.MOUNTING

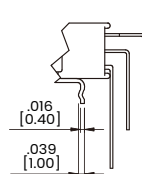


## Snap-In Termination Options

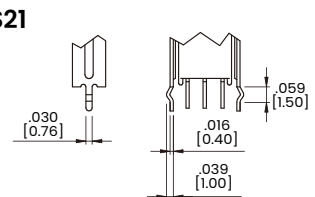
### M61



### M71



### VS21

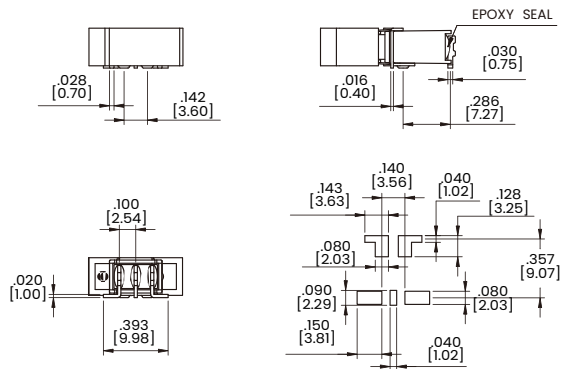


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

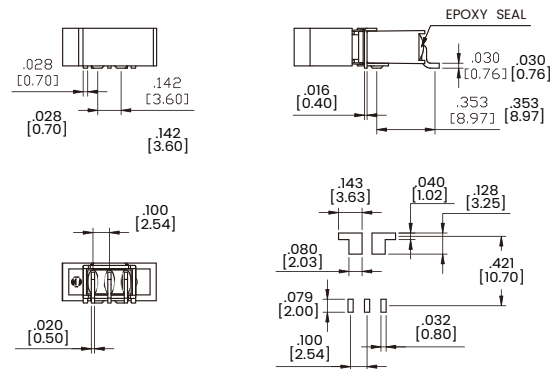
# Dimensional Specs

inches [millimeters]

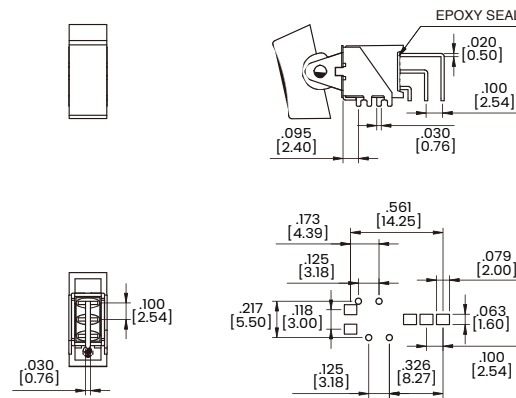
## M6 Single Pole



## S6 Single Pole

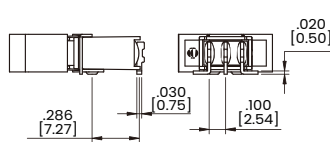


## S7 Single Pole

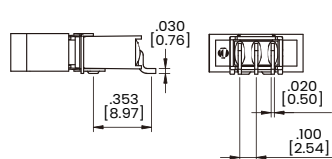


## Termination Options

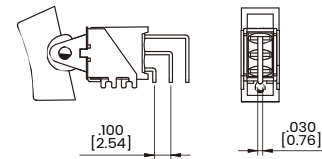
### M6



### S6



### S7





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