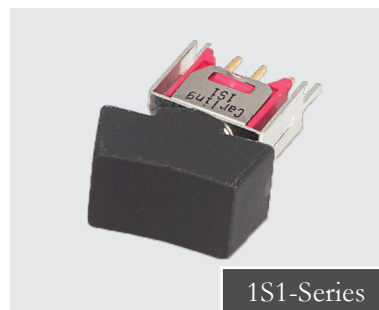
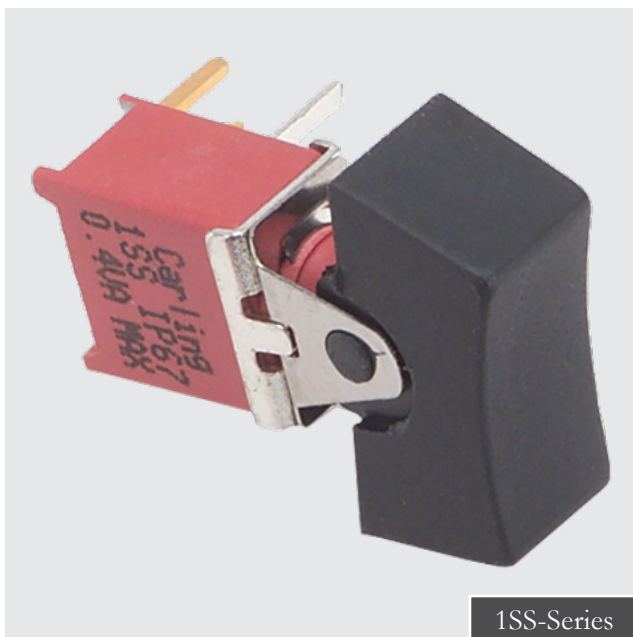


# 1SS/1S1/1SM

## 1S-Series

### SUB-MINIATURE ROCKERS

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.



#### Product Highlights:

- IP67 Sealing
- 5 Circuit Configurations
- 3 Rocker Styles to choose from
- Dry-Circuit thru 3A 125VAC Rating
- Snap-in, Solder Lug or PC Terminations

#### Typical Applications:

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

#### Resources:

[Configure a Complete Part](#)

[Download CAD & Sales Drawing >](#)



**Carling Technologies®**

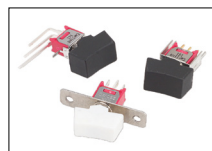
Innovative Designs. Powerful Solutions.

**Carling Technologies, Inc.**  
60 Johnson Avenue, Plainville, CT 06062  
Email: [sales@carlingtech.com](mailto:sales@carlingtech.com)  
Application Support: [team2@carlingtech.com](mailto:team2@carlingtech.com)  
Phone: 860.793.9281 Fax: 860.793.9231

[www.carlingtech.com](http://www.carlingtech.com)



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



**1S1-Series**  
Sub-Miniature  
Rocker Switch



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

### Electrical

Contact Rating refer to ordering scheme  
 Electrical Life *1S1-Series*: 30,000 make & break cycles @ full load  
*1SS & 1SM-Series*: 50,000 make & break cycles @ full load  
 Contact Resistance 20 mΩ max. initial @ 2-4 VDC  
 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  
*1S1-Series*: Diallyl phthalate (DAP)  
*1SS-Series*: Glass filled nylon 6/6, flame retardant, heat stabilized  
*1SM-Series*: Glass filled nylon 4/6, flame retardant, heat stabilized  
 Rocker *1S1-Series*: Nylon (UL 94V-0)  
*1SS & 1SM-Series*: Nylon, black standard, internal o-ring sealed  
 Bushing *1S1-Series*: Brass, nickel plated  
*1SS-Series*: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)  
*1SM-Series*: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)  
 Housing *1S1-Series*: Stainless Steel  
 Switch Support *1S1 & 1SM-Series*: Brass, tin plated  
 Terminal Seal Epoxy



**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
	2-3, 5-6	Connected Terminals	2-1, 5-4
1	ON	NONE	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 page 6-7 for 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

\*Manufacturer reserves the right to change product specification without prior notice.

1S1 - 
 MSP
1 - 
 R2 / 
 2
M6
Q
E

1 Series
2 Poles
3 Circuit
4 Actuator Style
5 Actuator Color
6 Termination
7 Contacts
8 Seal

**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
	2-3, 5-6	Connected Terminals	2-1, 5-4
1	ON	NONE	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  
**R3** Medium 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>VS2</b> PC Mount, U bracket
<b>M7</b> PC Mount, 90° vertical	<b>VS3</b> PC Mount, U bracket
<b>VS2</b> PC Mount, U bracket	
<b>VS3</b> PC Mount, U bracket	

See page 8-9 for 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	
<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>	3A 125VAC or 28VDC, 1.5A 250VAC	
<b>Q</b>	silver <sup>1</sup>	silver <sup>1</sup>	3A 125VAC or 28VDC, 1.5A 250VAC	
<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

1SM - 
 WMSP
1 - 
 R2 - 
 M2
G
E

1 Series
2 Poles
3 Circuit
4 Actuator Style
5 Termination
6 Contacts
7 Seal
8 Packaging

**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
	2-3	Connected Terminals	2-1
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	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 page 10 for dimensional specifications.

**6 CONTACTS / TERMINALS**

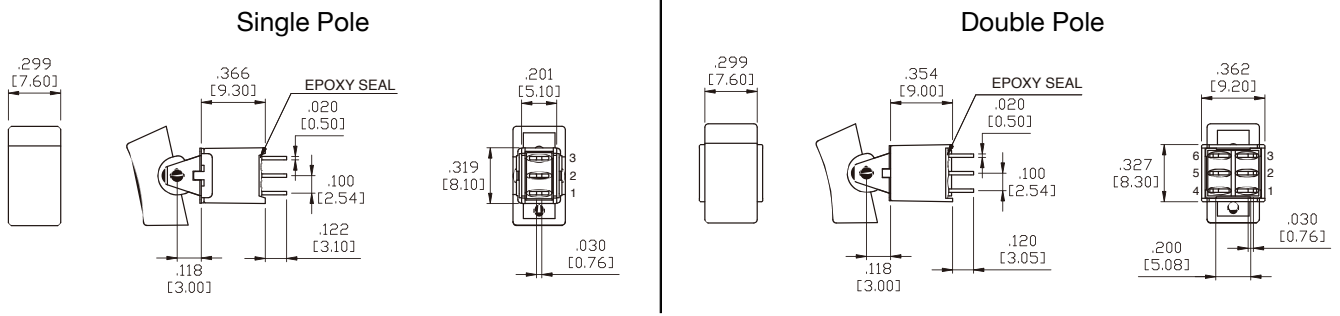
	Contact Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver <sup>1</sup>	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>K</b>	gold <sup>2,5</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b>	silver <sup>1,6</sup>	tin <sup>4</sup>	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
<b>Q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

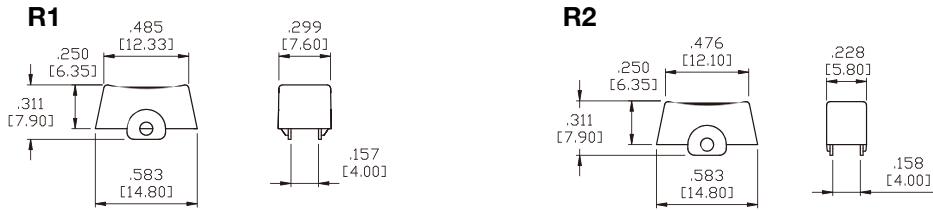
**8 PACKAGING**  
**T/R** tape reel - 500 pieces per reel  
 Switches are bulk packed, unless T/R is specified at the end of the part number.

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

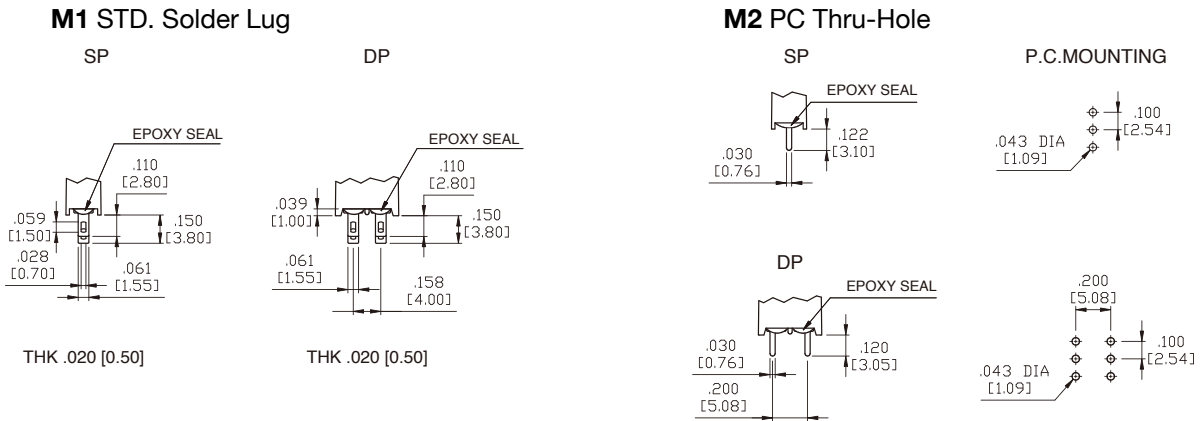
## 1SS-Series Dimensional Specifications: in. [mm]



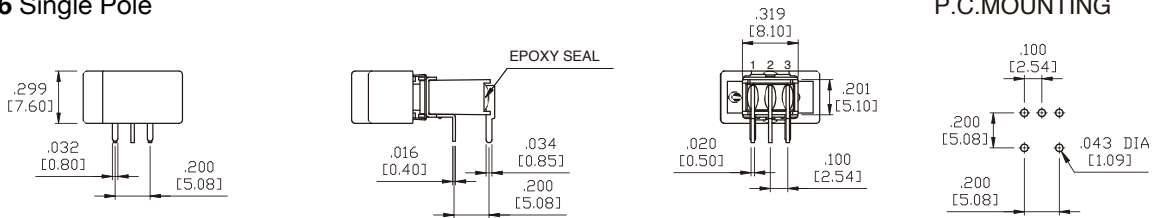
### Actuator Options



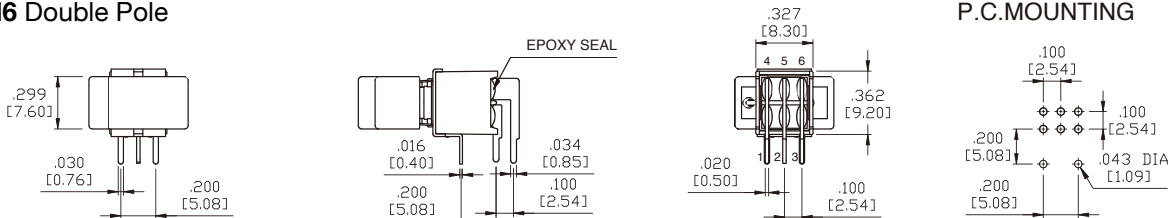
### Termination Options



### M6 Single Pole



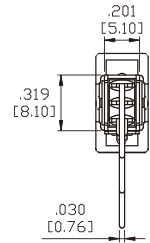
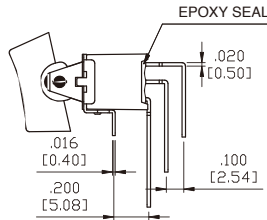
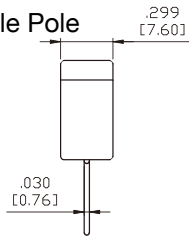
### M6 Double Pole



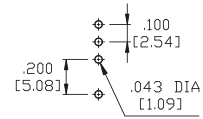
## 1SS-Series Dimensional Specifications: in. [mm]

### Termination Options

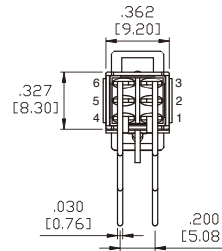
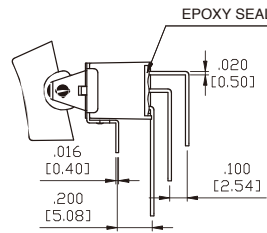
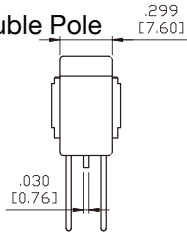
**M7 Single Pole**



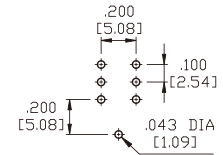
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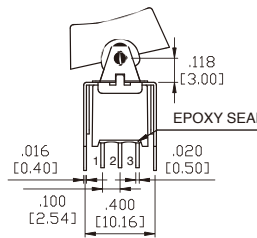
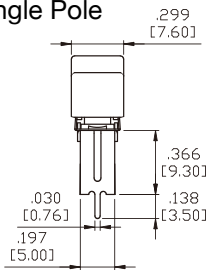
**M7 Double Pole**



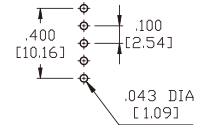
**P.C.MOUNTING**



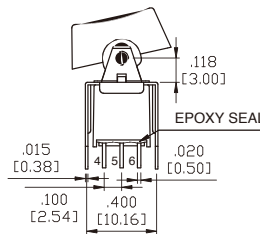
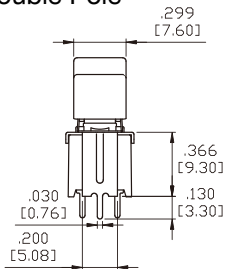
**VS2 Single Pole**



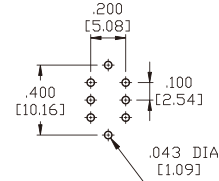
**P.C.MOUNTING**



**VS2 Double Pole**

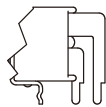
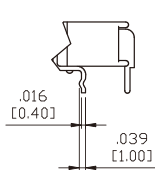


**P.C.MOUNTING**

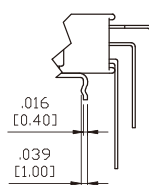


### Snap-In Termination Options

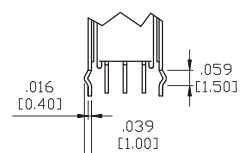
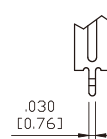
**M61**



**M71**

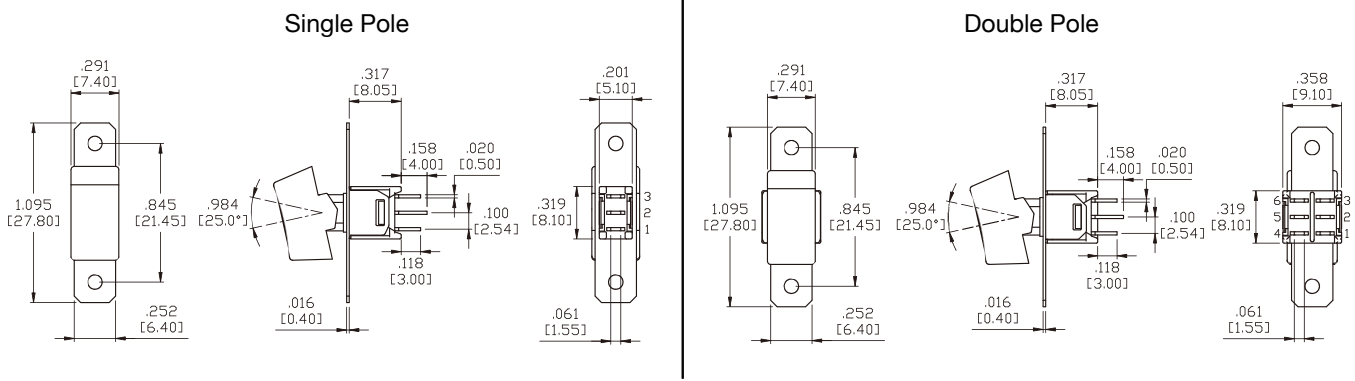


**VS21**

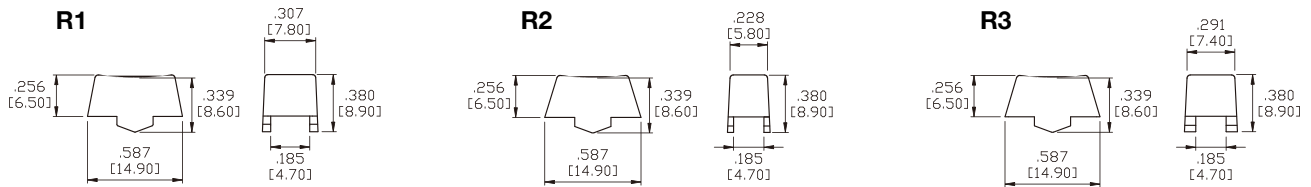


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

# 1S1-Series Dimensional Specifications: in. [mm]

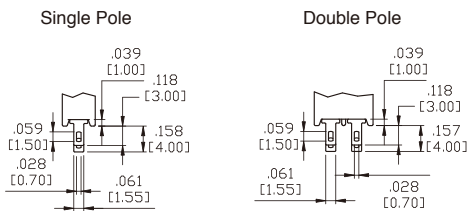


## Actuator Options

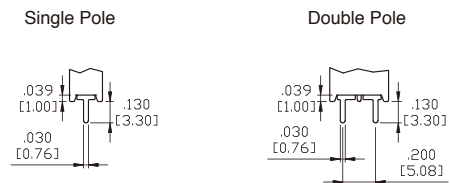


## Termination Options

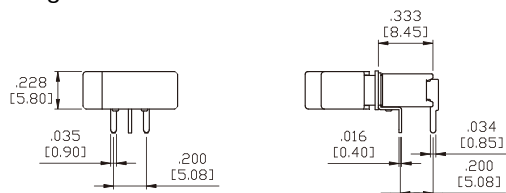
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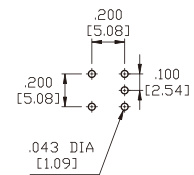
### M2 PC Thru-Hole



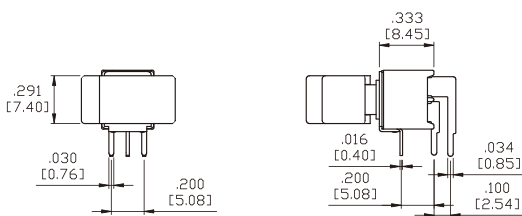
### M6 Single Pole



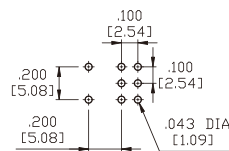
### P.C.MOUNTING



### M6 Double Pole



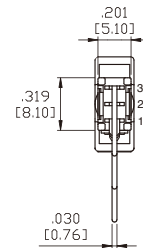
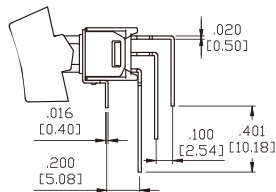
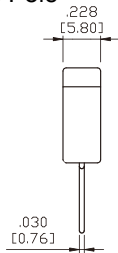
### P.C.MOUNTING



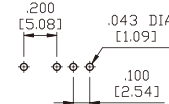
# 1S1-Series Dimensional Specifications: in. [mm]

## Termination Options

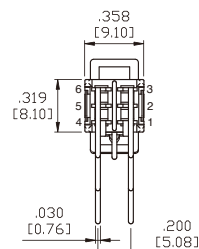
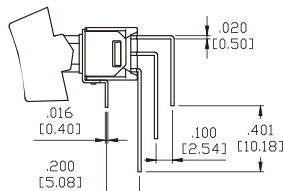
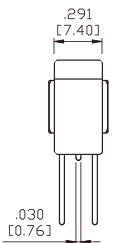
### M7 Single Pole



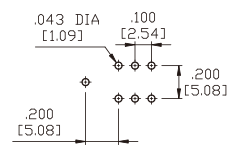
### P.C.MOUNTING



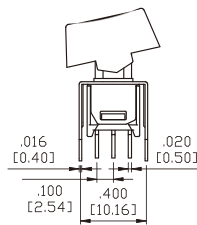
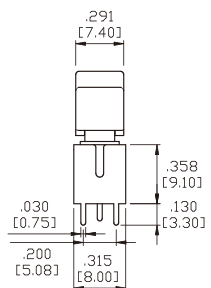
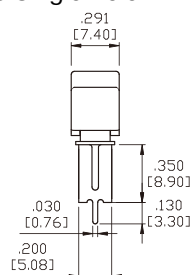
### M7 Double Pole



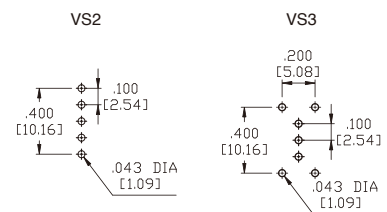
### P.C.MOUNTING



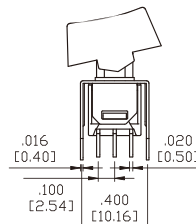
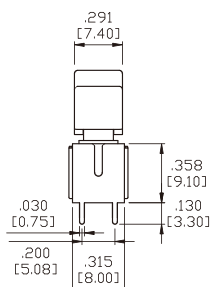
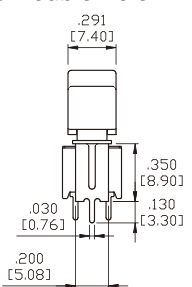
### VS2-VS3 Single Pole



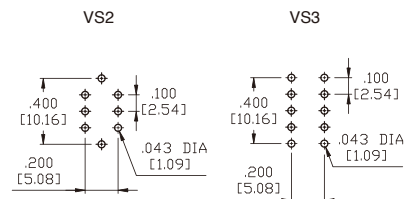
### P.C.MOUNTING



### VS2-VS3 Double Pole

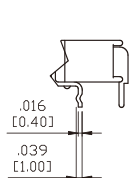


### P.C.MOUNTING

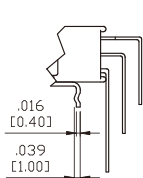


## Snap-In Termination Options

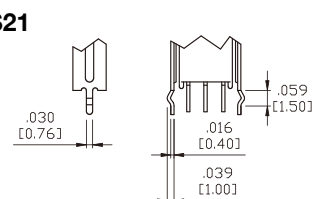
### M61



### M71

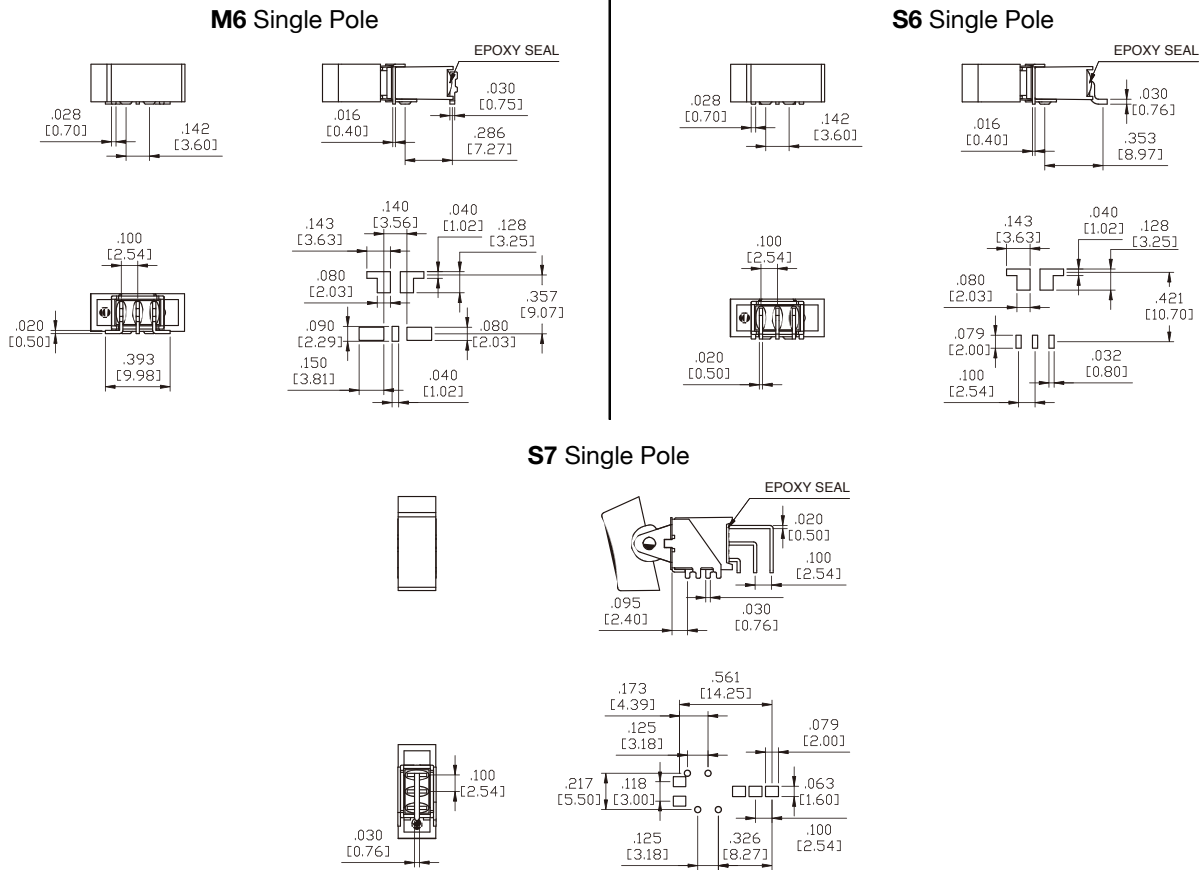


### VS21

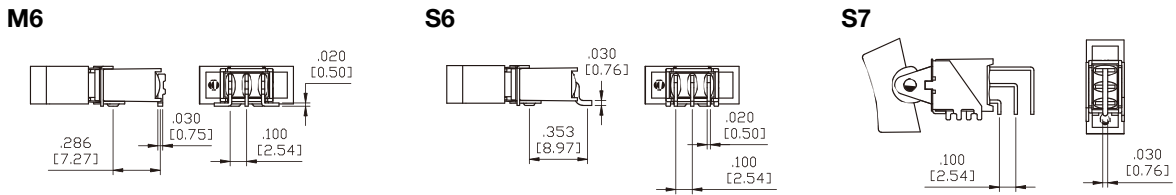


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

## 1SM-Series Dimensional Specifications: in. [mm]



### Termination Options





## Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit [www.carlingtech.com/findarep](http://www.carlingtech.com/findarep).



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