

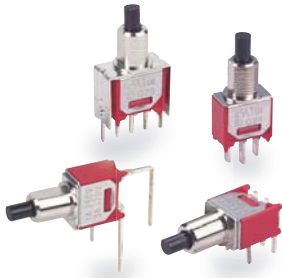


# 8M Series

Sub-Miniature Pushbutton Switches



8M Pushbutton Switches



## SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material, see page 119.

**MECHANICAL LIFE:** 50,000 make-and-break cycles.

**CONTACT RESISTANCE:** 20 mΩ max. (initial value) @ 2-4VDC  
100mA for both silver and gold plated contacts.

**INSULATION RESISTANCE:** 1,000 MΩ min./1000VDC

**DIELECTRIC STRENGTH:** 1,000 Vrms min.@sea level. (initial value)

**OPERATING TEMPERATURE:** -40°C to 85°C.

## MATERIALS

**CASE:** Diallyl phthalate(DAP) (UL94V-0).

**PLUNGER:** Nylon 6/6, black.

**BUSHING:** Brass or zinc, nickel plated.

**HOUSING:** Stainless Steel.

**SWITCH SUPPORT:** Brass, tin plated.

**CONTACT/TERMINAL:** Copper or brass with silver or gold plated.

(See page 119)

## HOW TO ORDER

MODEL NO.	PLUNGER	BUSHING	TERMINAL TYPE	TERMINAL PLATING	SEAL	RoHS SOLDERING
<b>SP</b> <b>8MS8</b> ON-(ON) <b>8MS9</b> OFF-(ON)	<b>P1</b> 3.94 high(std)	<b>B05</b> 5.59 high,flat (thd) <b>B06</b> 5.59 high,flat (non-thd) <b>B07</b> 5.59 high (non-thd) <b>B08</b> 7.87 high (non-thd) <b>B09</b> 7.87 high (thd) <b>B10</b> 0.51 high	<b>M1</b> Solder Lug <b>M2</b> PC thru-hole <b>M5</b> Wire wrap <b>M6</b> Right angle, PC thru-hole <b>M6N</b> Right angle, snap-in, PC thru-hole <b>M7</b> Vertical right angle, PC thru-hole <b>M7N</b> Vertical right angle, snap-in, PC thru-hole  <u>V-bracket</u> <b>VS2</b> 8.94 high <b>V2N</b> 8.94 high, snap-in	<b>Q</b> Silver <b>R</b> Gold <b>C</b> Gold over silver	<b>E</b> EPOXY (std) <b>N</b> NO EPOXY	<b>S</b> RoHS & Lead Free

Note: Plunger cap options see page 118.

EXAMPLE: 8MS8P1B05M1QES

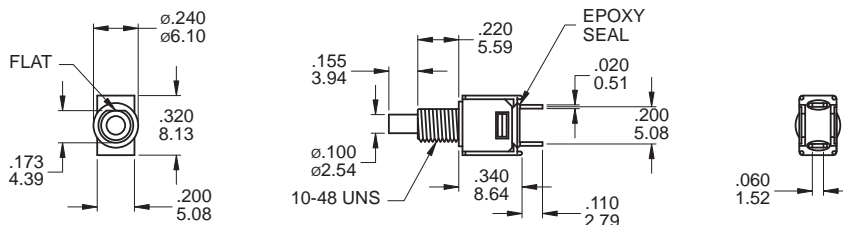
### ▼ SWITCH FUNCTION

NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS / SCHEMATIC	
			POS.1	POS.2	POS.1	POS.2
SP	Q2818	8MS8	ON	(ON)	2-1 NC 1 • 2 (COMM) • 3 NO	2-3 NC 1 • 2 (COMM) • 3 NO
	Q2819	8MS9*	OFF	(ON)	OPEN	1-3 1 1 3

( )=MOMENTARY

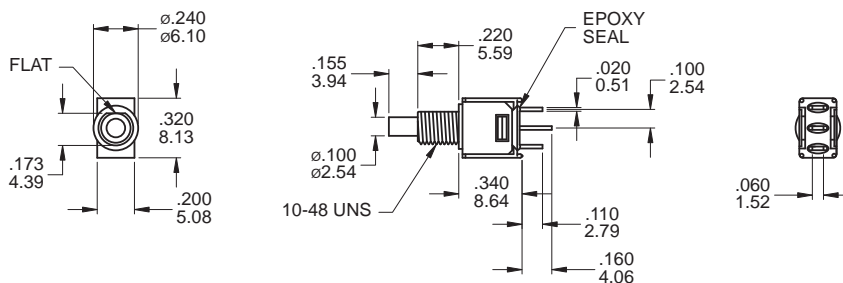
\* Omit terminal 2

### ▼ POLE OPTIONS



SPST

Model name. 8MS9P1B05M1QES

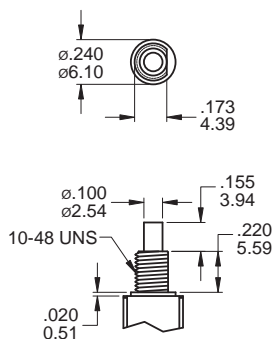


SPDT

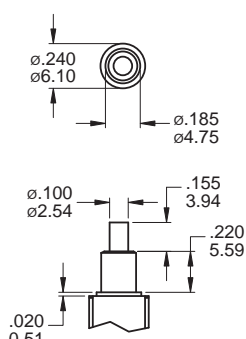
Model name. 8MS8P1B05M1QES

### ▼ PLUNGER & BUSHING OPTIONS

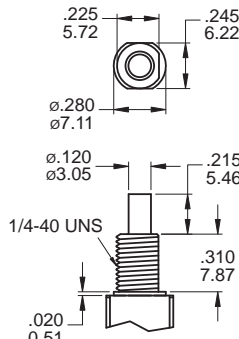
B05 THD \*  
B06 NON-THD \*



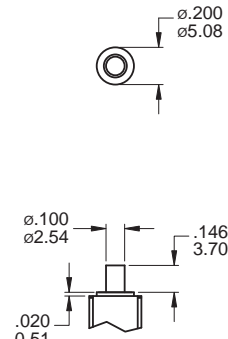
B07 NON-THD \*



B08 NON-THD \*\*  
B09 THD \*\*



B10



Note: Standard hardware see page 119.

\* B05, B06, B07 Bushing with terminal M6, M6N, M7, VS2 plunger -.016inch(0.41mm)

\*\* Plunger are shown with 8MS9 (standard) and available with terminal M1, M2, M5

1.For 8MS8: -.012inch(0.31mm)

2.For plunger with terminal M6, M6N, M7, VS2:

SPST: -.028inch(0.71mm)

SPDT: -.016inch(0.41mm)

Note:

For plunger with terminal M6, M6N, M7, VS2: -.016inch(0.40mm)



# 8M Series

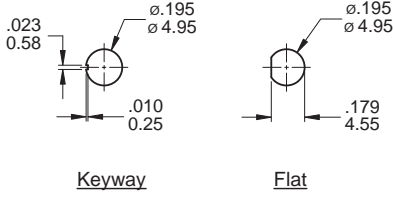
Sub-Miniature Pushbutton Switches



8M Pushbutton Switches

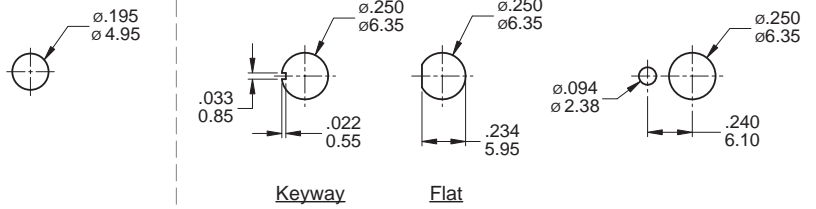
## ▼ PANEL MOUNTING

### 10-48 BUSHING



Without locking ring

### 1/4 IN BUSHING



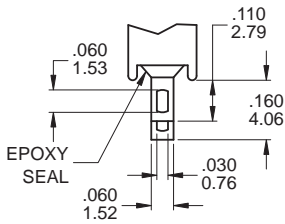
For B07 bushing  
Without locking ring

Without locking ring

With standard locking ring

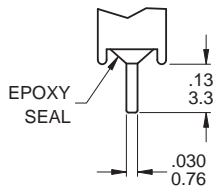
## ▼ TERMINAL OPTIONS

### M1 Solder lug



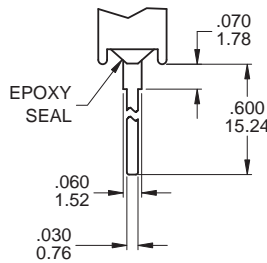
.020inch(0.51mm) THK.

### M2 PC Thru-hole



.020inch(0.51mm) THK.

### M5 Wire Wrap

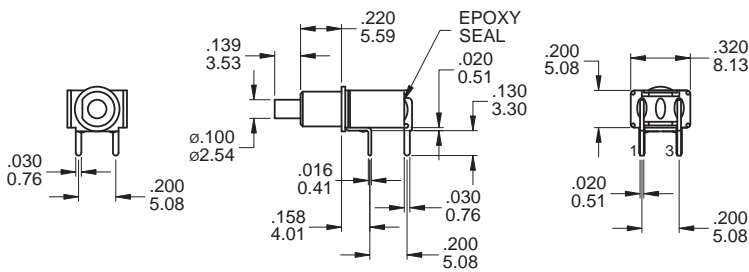


.020inch(0.51mm) THK.

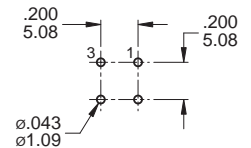
### OTHER TERMINAL OPTIONS

- M6** Right angle P.C. Mount
- M6N** Right angle P.C. Mount Snap-in bracket
- M7** Vertical right angle P.C. Mount
- M7N** Vertical right angle P.C. Mount Snap-in bracket
- VS2** Vertical bracket P.C. Mount
- V2N** Vertical bracket P.C. Mount Snap-in bracket

### M6 (M6N - Snap-in)



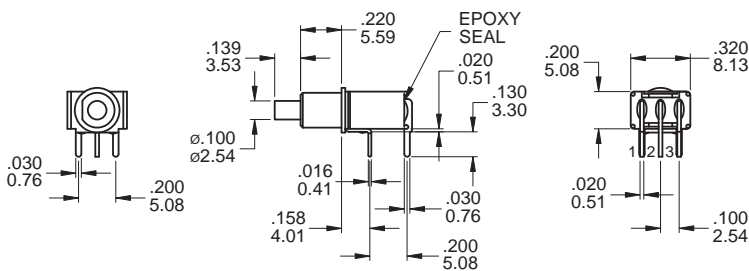
### PCB MOUNTING



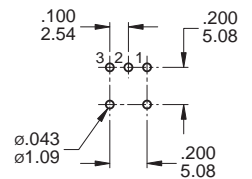
### SPST

Model name. 8MS9P1B06M6RES

### M6 (M6N - Snap-in)



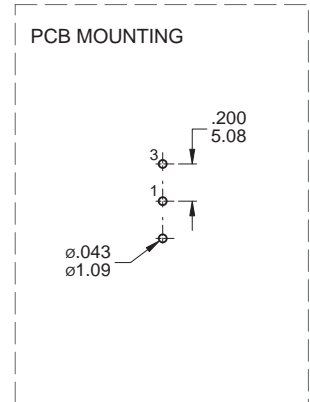
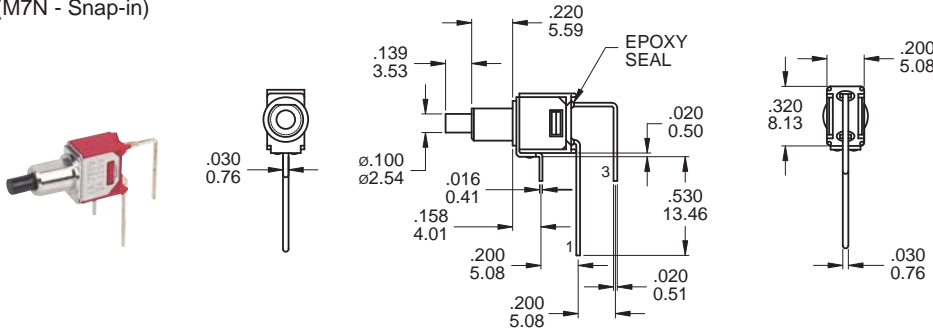
### PCB MOUNTING



### SPDT

Model name. 8MS8P1B06M6QES

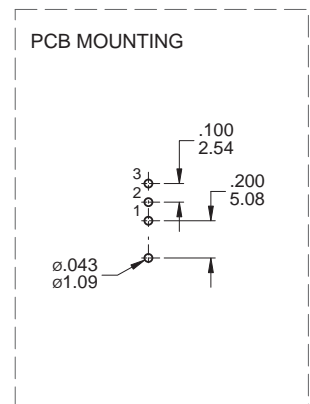
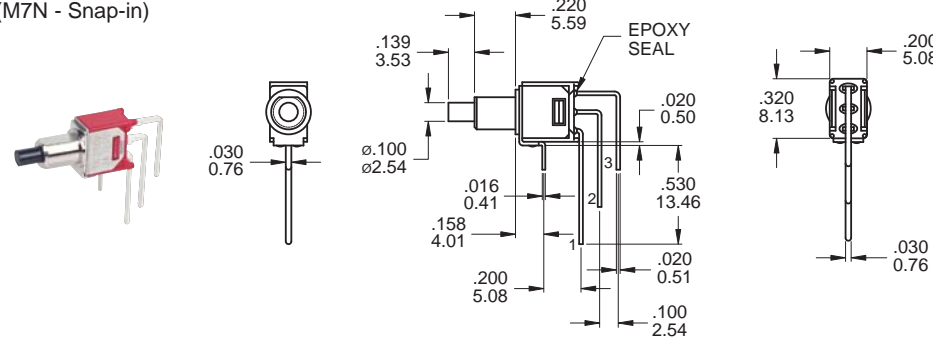
**M7**  
(M7N - Snap-in)



**SPST**

Model name. 8MS9P1B06M7QES

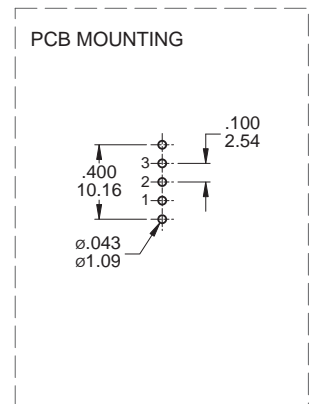
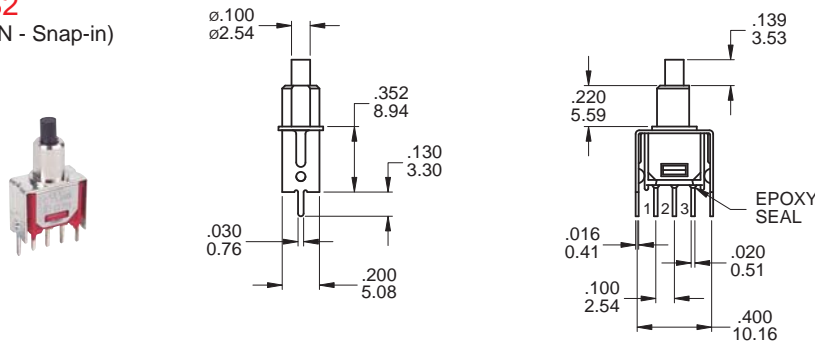
**M7**  
(M7N - Snap-in)



**SPDT**

Model name. 8MS8P1B06M7QES

**VS2**  
(V2N - Snap-in)

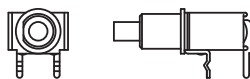


**SPDT**

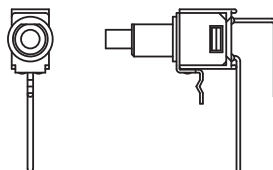
Model name. 8MS8P1B06VS2QES

▼ **SNAP-IN TERMINAL OPTIONS**

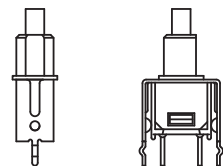
**M6N**



**M7N**

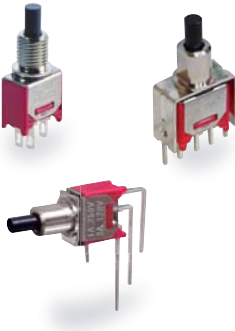


**V2N**





8M(LOCK) Pushbutton Switches



## SPECIFICATIONS

**RATING:** 1A 250VAC, 3A 120VAC or 28VDC

**ELECTRICAL LIFE:** 6,000 cycles.

**CONTACT RESISTANCE:** R=20 mΩ max., Q=50 mΩ max.

**INSULATION RESISTANCE:** 1,000 MΩ min., 1000VDC

**DIELECTRIC STRENGTH:** 1,000 VAC for 1 Minute. (initial value)

**OPERATING TEMPERATURE:** -40°C to 85°C.

**FULL TRAVEL:** 1.88±0.30mm

**OPERATING TRAVEL:** 1.34±0.25mm

**OPERATING FORCE:** 350±100g

## MATERIALS

**CASE:** Diallyl phthalate(DAP) (UL94V-0).

**PLUNGER:** Nylon glass fiber.

**BUSHING:** Brass, nickel plated.

**HOUSING:** Stainless.

**SWITCH SUPPORT:** Brass, tin plated.

**CONTACT/TERMINAL:** Brass with silver or gold plated. (See page 119)

## HOW TO ORDER

MODEL NO.	PLUNGER	BUSHING	TERMINAL TYPE	TERMINAL PLATING	SEAL	RoHS SOLDERING
<p>SP</p> <p>8MSL ON-ON</p>	<p>P1 4.29 high(std)</p>	<p>B05 5.24 high, flat (thd)</p> <p>B06 5.24 high, flat (non-thd)</p>	<p>M1 Solder Lug</p> <p>M2 PC thru-hole</p> <p>M6 Right angle, PC thru-hole</p> <p>M7 Vertical right angle, PC thru-hole</p> <p><u>V-bracket</u></p> <p>VS2 9.45 high</p>	<p>Q Silver</p> <p>R Gold</p> <p>C Gold over silver</p>	<p>E EPOXY (std)</p> <p>N NO EPOXY</p>	<p>S RoHS &amp; Lead Free</p>

Note: Plunger cap options see page 118.

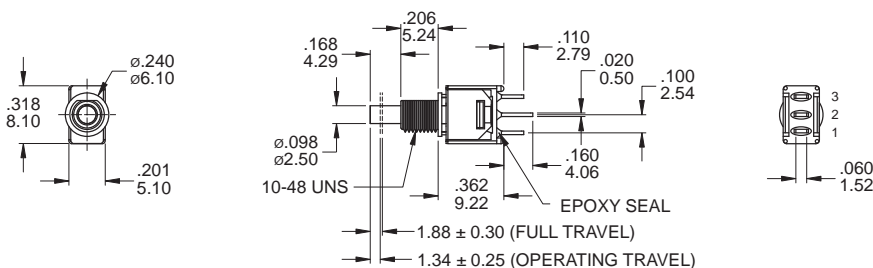
EXAMPLE: 8MSLP1B05M1QES

## ▼ SWITCH FUNCTION

NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS / SCHEMATIC	
			POS.1	POS.2	POS.1	POS.2
SP	Q28	8MSL	ON	ON	2-1 NC 1 • 2 (COMM) • 3 NO	2-3 NC 1 • 2 (COMM) • 3 NO

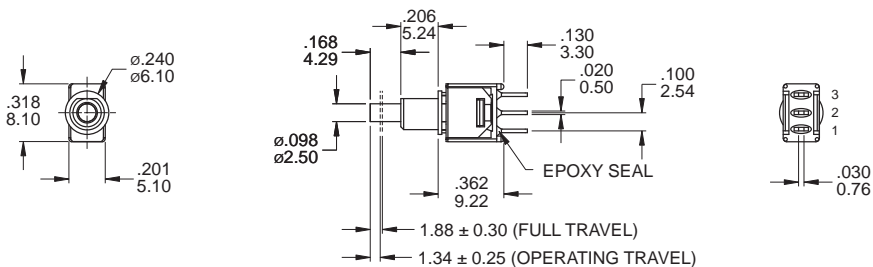
8M(LOCK) Pushbutton Switches

## ▼ POLE OPTIONS



**SPDT**

Model name. 8MSLP1B05M1QES

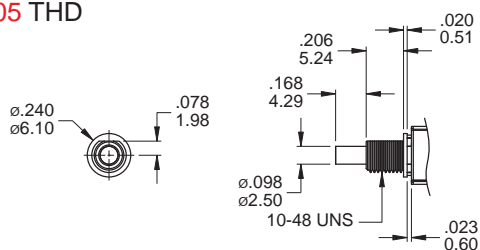


**SPDT**

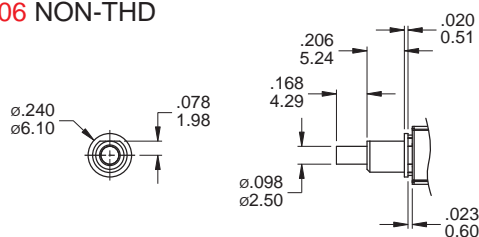
Model name. 8MSLP1B06M2QES

## ▼ PLUNGER & BUSHING OPTIONS

**B05 THD**



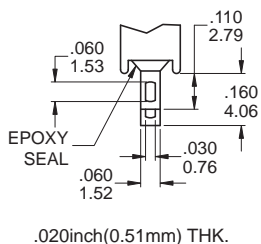
**B06 NON-THD**



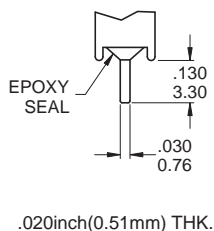
Note: Panel mounting see page 114.

## ▼ TERMINAL OPTIONS

**M1 Solder lug**



**M2 PC Thru-hole**

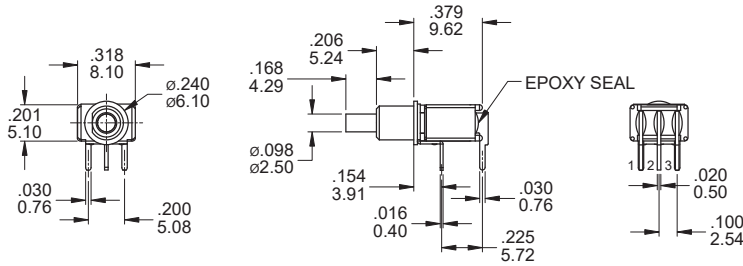


**OTHER TERMINAL OPTIONS**

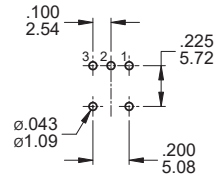
- M6** Right angle P.C. Mount
- M7** Vertical right angle P.C. Mount
- VS2** Vertical bracket P.C. Mount



## M6



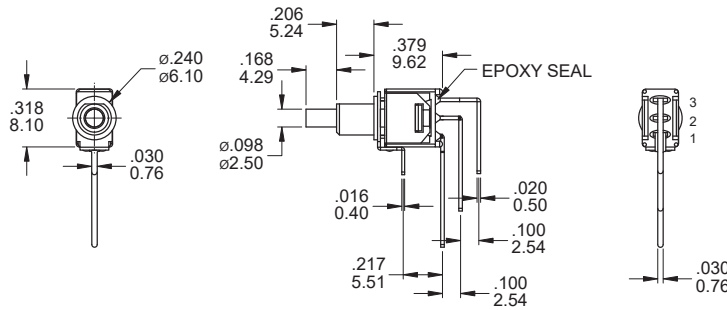
### PCB MOUNTING



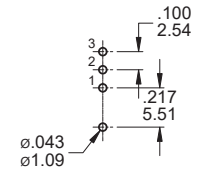
### SPDT

Model name. 8MSLP1B06M6QES

## M7



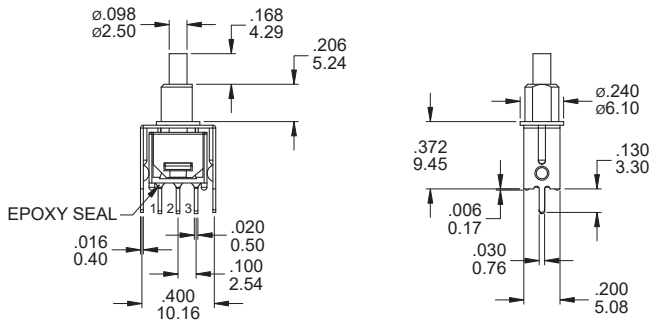
### PCB MOUNTING



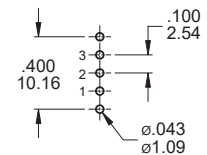
### SPDT

Model name. 8MSLP1B06M7QES

## VS2



### PCB MOUNTING



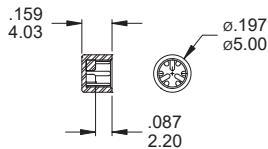
### SPDT

Model name. 8MSLP1B06VS2QES

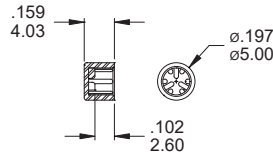
## ▼ PLUNGER CAP OPTIONS

Note: C1, C3 and C4 cap can only be use with 8M series.

### C1

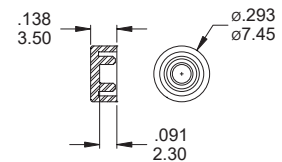


### C3



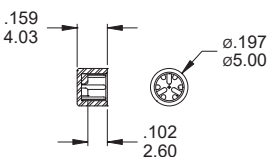
Available with bushing B8, B9 only

### C4

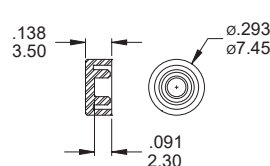


Note: C2, C5 cap can only be use with 8A, 8B series.

### C2



### C5



### CAP Color :

ITEM NO	COLOR
1	White (Std)
2	Black (Std)
3	Red (Std)
5	Yellow
6	Green (Std)
7	Blue
9	Gray

Note: Only available for 8M, 8A series.

\* Except standard color, for other colors information please consult sales representativity.

EXAMPLE:



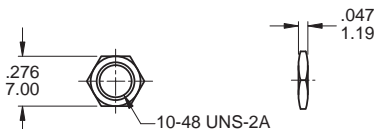
▼ **HARDWARE**

EXAMPLE:    -     
Model name.    5 Standard hardware

\* Standard for B05 bushing: 2 nut, 1 lockwasher  
\* Standard for B09 bushing: 2 nut, 1 locking ring, 1 lockwasher

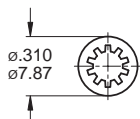
**10-48 NUT (Std.)**

Model name. MNU-2M01



**LOCKWASHER (Std.)**

Model name. MNU-2M03

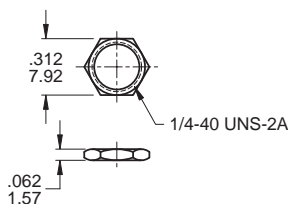


.018inch(0.46mm)THK

Available with bushing B05 only.

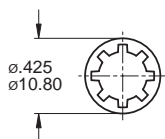
**1/4 NUT (Std.)**

Model name. MNU--1M01A



**LOCKWASHER (Std.)**

Model name. MNU-1M03

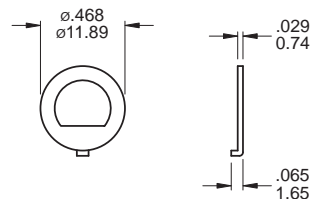


.018inch(0.46mm)THK

Available with bushing B09 only.

**LOCKING RING (Std.)**

Model name. MNU-1M11



Available with bushing B09 only.

▼ **CONTACT & TERMINAL PLATING OPTIONS**

	CONTACT PLATING	TERMINAL PLATING	RATINGS
<b>Q</b>	Silver	Silver	3 Amps with resistant load @ 120VAC or 28VDC
<b>C</b>	Gold over Silver	Gold over silver	1 Amps with resistant load @ 250VAC
<b>R</b>	Gold	Gold	0.4 Volt - Amps ( VA ) max. @ 20V max. ( AC or DC )

▼ **SOLDERING PROCESS**

**MANUAL SOLDERING:** Use 30 watts soldering iron and controlled the temperature at 350°.

Duration of solder immersion: Max. 5 sec.

**WAVE SOLDERING:** Recommend soldering temperature: 260 ± 5°C

Duration of solder immersion: Max. 5 sec. (PCB thickness is 1.6mm)