



ENGLISH

Datasheet

Stock No: 394-425

# RS PRO Panel Mount Toggle Switch, Latching



**Feature:**

**ON-OFF-ON**

**12.30 high**

**7.55 high, keyway (thd std)**

**Solder lug**

**Silver**

**EPOXY (std)**

**RoHS & Lead Free**

**Code symbol:**

**1MD3**

**T6**

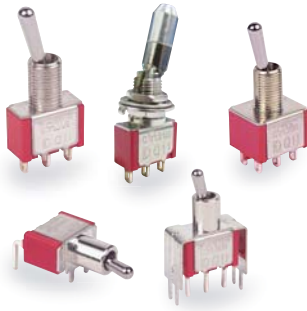
**B11**

**M1**

**Q**

**E**

**S**



## SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material, see page 11.

**MECHANICAL LIFE:** 40,000 make-and-break cycles.

**CONTACT RESISTANCE:** 10mΩ 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).

**ACTUATOR:** Brass, chrome plated.

**BUSHING:** Brass, nickel plated.

**HOUSING:** Stainless steel.

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

**CONTACT / TERMINALS:** Copper with silver or gold plated.

(See page 11)

| MODEL NO.                   | ACTUATOR                        | BUSHING | TERMINAL TYPE                                    | TERMINAL PLATING  | SEAL  | RoHS SOLDERING            |
|-----------------------------|---------------------------------|---------|--|---|---|---------------------------|
| <b>SP</b>                   |                                 |         |  | <b>Q</b> Silver<br><b>R</b> Gold<br><b>C</b> Gold over silver | <b>E</b> EPOXY (std)<br><b>N</b> NO EPOXY     | <b>S</b> RoHS & Lead Free |
| <b>1MS1</b> ON-NONE-ON      | <b>T1</b> 10.41 high            |         |  |   |   |                           |
| <b>1MS2</b> ON-NONE-(ON)    | <b>T2</b> 5.08 high             |         |  |   |   |                           |
| <b>1MS3</b> ON-OFF-ON       | <b>T3</b> 13.97 high            |         |  |   |   |                           |
| <b>1MS4</b> (ON)-OFF-(ON)   | <b>T4</b> 16.26 high            |         |  |   |   |                           |
| <b>1MS5</b> ON-OFF-(ON)     | <b>T5</b> 21.34 high            |         |  |   |   |                           |
|                             | <b>T9</b> 21.3 high, Plastic    |         |  |   |   |                           |
|                             | <b>T7</b> 12.37 high **         |         | <b>B1</b> 8.89 high, keyway (thd std)            |   | <b>M1</b> Solder lug                          |                           |
|                             | <b>T8</b> 17.56 high **         |         | <b>B2</b> 8.89 high, keyway (non-thd)            |   | <b>M2</b> PC thru-hole                        |                           |
|                             | <b>T88</b> 17.5 high ***        |         | <b>B3</b> 7.10 high, keyway (thd)                |   | <b>M3</b> Quick connect                       |                           |
| <b>DP</b>                   |                                 |         | <b>B4</b> 7.10 high, keyway (non-thd)            |   | <b>M51</b> 18.70 high, wire wrap              |                           |
| <b>1MD1</b> ON-NONE-ON      |                                 |         | <b>B7</b> 8.89 high, flat (thd std)              |   | <b>M52</b> 24.20 high, wire wrap              |                           |
| <b>1MD2</b> ON-NONE-(ON)    |                                 |         | <b>B8</b> 8.89 high, keyway (metric thd)         |   | <b>M53</b> 10.55 high, wire wrap              |                           |
| <b>1MD3</b> ON-OFF-ON       | <u>Anti-rotation</u>            |         | <b>B11</b> 7.55 high, keyway (thd std) ****      |   | <b>M54</b> 26.97 high, wire wrap              |                           |
| <b>1MD4</b> (ON)-OFF-(ON)   | <b>T6</b> 12.30 high            |         | <b>B12</b> 7.55 high, keyway (non-thd) ****      |   | <b>M6</b> Right angle, PC thru-hole           |                           |
| <b>1MD5</b> ON-OFF-(ON)     | <b>T61</b> 21.0 high            |         | <b>B13</b> 11.38 high, keyway (15/32 bushing)    |   | <b>M6N</b> Right angle, Snap-in, PC thru-hole |                           |
| <b>1MD6</b> ON-ON-ON        | <b>T62</b> 13.49 high, With cap |         | <b>B15</b> 7.55 high, flat (thd std) ****        |   | <b>M7</b> Vertical right angle, PC thru-hole  |                           |
| <b>1MD7</b> (ON)-ON-(ON) ▲  | <b>T63</b> 6.35 high            |         | <b>B16</b> 7.55 high, flat (non-thd) ****        |   |   |                           |
| <b>1MD8</b> ON-ON-(ON) ▲    | <u>Locking lever</u>            |         | <b>B17</b> 3.50 high, keyway, (thd)              |   |   |                           |
|                             | <b>TL1</b> 16.00 high           |         | <b>B18</b> 11.38 high, keyway (15/32 bushing)    |   | <u>V-bracket</u>                              |                           |
| <b>3P</b>                   | <b>TL2</b> 16.26 high           |         | <b>B20</b> 11.38 high, keyway (15/32 bushing)    |   | <b>VS2</b> 11.68 high                         |                           |
| <b>1M31</b> ON-NONE-ON      | <b>TL3</b> 17.28 high           |         |  |   | <b>V2N</b> 11.68 high, Snap-in.               |                           |
| <b>1M32</b> ON-NONE-(ON)    |                                 |         | <u>High torque</u>                               |   | <b>VS3</b> 16.00 high                         |                           |
| <b>1M33</b> ON-OFF-ON       |                                 |         | <b>B5</b> 7.52 high, flat                        |   | <b>VS4</b> 11.68 high                         |                           |
| <b>1M34</b> (ON)-OFF-(ON)   |                                 |         | <b>B6</b> 8.00 high, keyway                      |   | <b>VS5</b> 16.00 high                         |                           |
| <b>1M35</b> ON-OFF-(ON)     |                                 |         |  |   |   |                           |
| <b>4P</b>                   |                                 |         | <u>Locking</u>                                   |   |   |                           |
| <b>1M41</b> ON-NONE-ON      |                                 |         | <b>B25</b> 8.00 high, keyway, (thd) *            |   |   |                           |
| <b>1M42</b> ON-NONE-(ON)    |                                 |         | <b>B26</b> 8.00 high, keyway, (non-thd) *        |   |   |                           |
| <b>1M43</b> ON-OFF-ON       |                                 |         |  |   |   |                           |
| <b>1M44</b> (ON)-OFF-(ON)   |                                 |         | <u>Splash proof</u>                              |   |   |                           |
| <b>1M45</b> ON-OFF-(ON)     |                                 |         | <b>B9</b> 7.52 high, flat, (thd)                 |   |   |                           |
| <b>1M46</b> ON-ON-ON        |                                 |         | <b>B14</b> 11.90 high, flat, (15/32 bushing)     |   |   |                           |
| <b>1M47</b> (ON)-ON-(ON) ▲  |                                 |         | <b>B52</b> 11.70 high, flat, (15/32 bushing) *** |   |   |                           |
| <b>1M48</b> 4P ON-ON-(ON) ▲ |                                 |         |  |   |   |                           |

▲ Please confirm the availability before order.

\* Only available for Locking lever.  
\*\* Only available for 15/32 bushing.  
\*\*\* T88 actuators are only available with B52 bushing  
\*\*\*\* Only available for Anti-rotation lever.

EXAMPLE: 1MS1T1B1M1QES

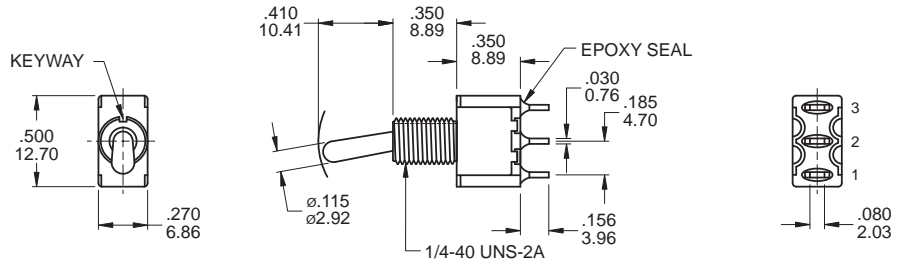
## SWITCH FUNCTION

| NO. POLES | UL/CSA MODEL NO. | MODEL NO. | SWITCH FUNCTION |       |       | CONNECTED TERMINALS / SCHEMATIC |       |                   |
|-----------|------------------|-----------|-----------------|-------|-------|---------------------------------|-------|-------------------|
|           |                  |           | POS.1           | POS.2 | POS.3 | POS.1                           | POS.2 | POS.3             |
|           |                  |           |                 |       |       |                                 |       |                   |
| SP        | Q1111            | 1MS1      | ON              | NONE  | ON    |                                 | N/A   | 2-1               |
|           | Q1112            | 1MS2      | ON              | NONE  | (ON)  |                                 |       |                   |
|           | Q1113            | 1MS3      | ON              | OFF   | ON    |                                 |       |                   |
|           | Q1114            | 1MS4      | (ON)            | OFF   | (ON)  |                                 |       |                   |
|           | Q1115            | 1MS5      | ON              | OFF   | (ON)  |                                 |       |                   |
| DP        | Q1121            | 1MD1      | ON              | NONE  | ON    |                                 | N/A   | 2-1,5-4           |
|           | Q1122            | 1MD2      | ON              | NONE  | (ON)  |                                 |       |                   |
|           | Q1123            | 1MD3      | ON              | OFF   | ON    |                                 |       |                   |
|           | Q1124            | 1MD4      | (ON)            | OFF   | (ON)  |                                 |       |                   |
|           | Q1125            | 1MD5      | ON              | OFF   | (ON)  |                                 |       |                   |
|           | ▲ Q1126          | 1MD6      | ON              | ON    | ON    |                                 |       |                   |
|           | ▲ Q1127          | 1MD7      | (ON)            | ON    | (ON)  |                                 |       |                   |
|           | ▲ Q1128          | 1MD8      | ON              | ON    | (ON)  |                                 |       |                   |
| 3P        | Q1131            | 1M31      | ON              | NONE  | ON    |                                 | N/A   | 2-1,5-4,8-7       |
|           | Q1132            | 1M32      | ON              | NONE  | (ON)  |                                 |       |                   |
|           | Q1133            | 1M33      | ON              | OFF   | ON    |                                 |       |                   |
|           | Q1134            | 1M34      | (ON)            | OFF   | (ON)  |                                 |       |                   |
|           | Q1135            | 1M35      | ON              | OFF   | (ON)  |                                 |       |                   |
| 4P        | Q1141            | 1M41      | ON              | NONE  | ON    |                                 | N/A   | 2-1,5-4,8-7,11-10 |
|           | Q1142            | 1M42      | ON              | NONE  | (ON)  |                                 |       |                   |
|           | Q1143            | 1M43      | ON              | OFF   | ON    |                                 |       |                   |
|           | Q1144            | 1M44      | (ON)            | OFF   | (ON)  |                                 |       |                   |
|           | Q1145            | 1M45      | ON              | OFF   | (ON)  |                                 |       |                   |
|           | Q1146            | 1M46      | ON              | ON    | ON    |                                 |       |                   |
|           | ▲ Q1147          | 1M47      | (ON)            | ON    | (ON)  |                                 |       |                   |
|           | ▲ Q1148          | 1M48      | ON              | ON    | (ON)  |                                 |       |                   |

( ) = MOMENTARY

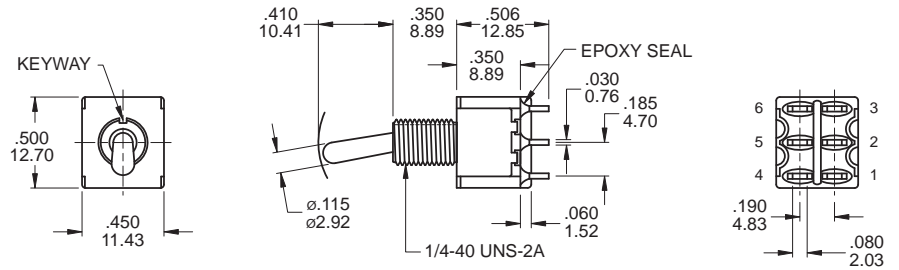
▲ Please confirm the availability before order.

## ▼ POLE OPTIONS



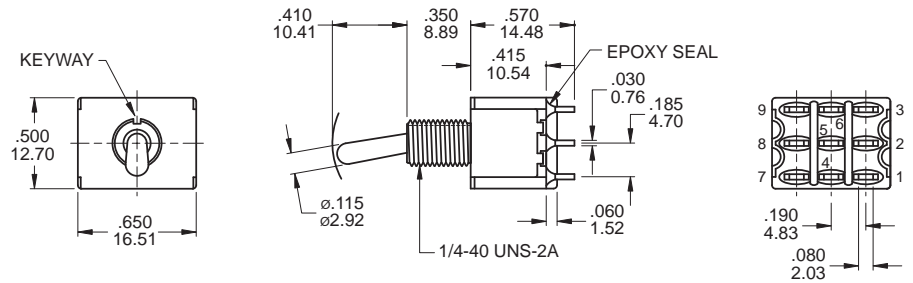
**SPDT**

Model name. 1MS1T1B1M1QES



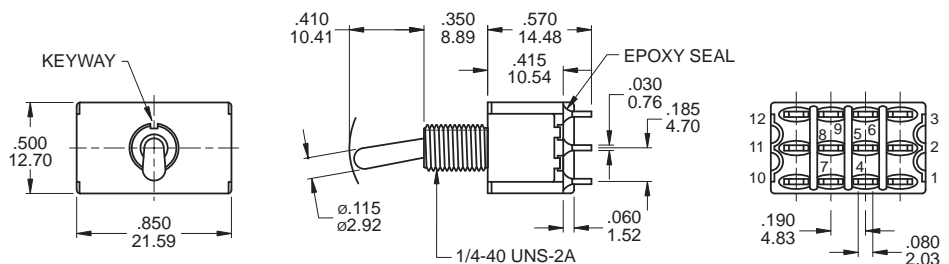
**DPDT**

Model name. 1MD1T1B1M1QES



**3PDT**

Model name. 1M31T1B1M1QES



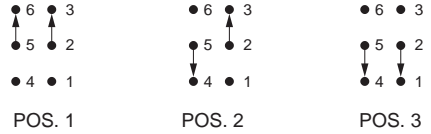
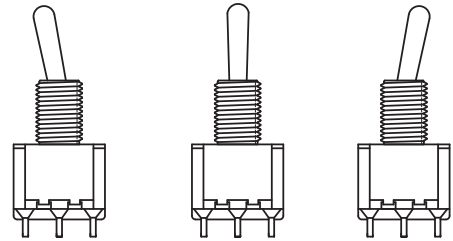
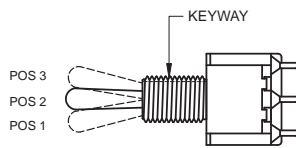
**4PDT**

Model name. 1M41T1B1M1QES

## ▼ 3-WAY SWITCH

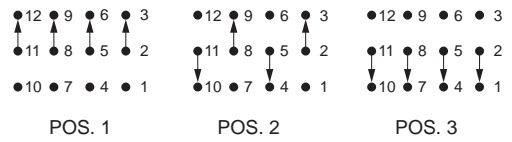
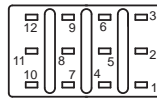
### SINGLE POLE, 3 POSITION

| Model No.   | POS 1   | POS 2   | POS 3   |
|-------------|---------|---------|---------|
| 1MD6        | ON      | ON      | ON      |
| Term. Comm. | 2-3,5-6 | 2-3,5-4 | 2-1,5-4 |



### DOUBLE POLE, 3 POSITION

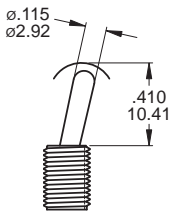
| Model No.   | POS 1                | POS 2                | POS 3                |
|-------------|----------------------|----------------------|----------------------|
| 1M46        | ON                   | ON                   | ON                   |
| Term. Comm. | 2-3,5-6<br>8-9,11-12 | 2-3,5-4<br>8-9,11-10 | 2-1,5-4<br>8-7,11-10 |



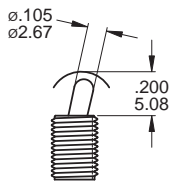
\* Diagram of the 3-way switch wiring

## ▼ ACTUATOR OPTIONS

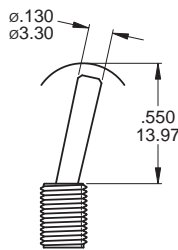
### T1 STD



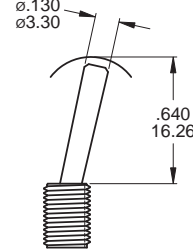
### T2



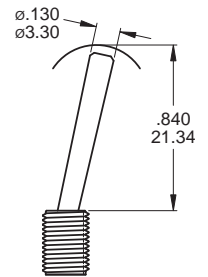
### T3



### T4



### T5



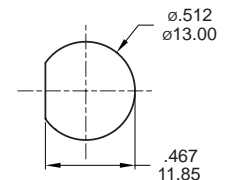
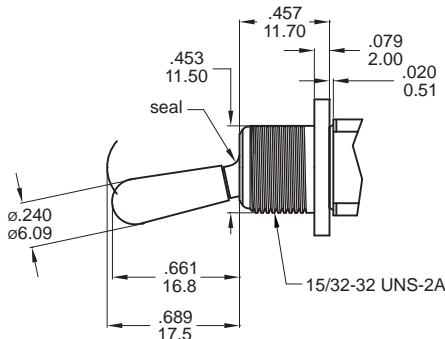
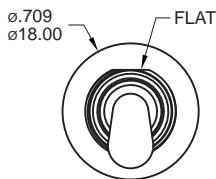
T1~T5 Actuator are shown with Bushing B1(standard) and available with Terminal M1,M2.

Note: For B3 Bushing: +.070inch(1.78mm)  
 For B6 Bushing: -.020inch(0.51mm)  
 For B1/B2 Bushing with Terminal M6, M7, VSX: -.016inch(0.40mm)

### T88B52

#### SPLASH PROOF

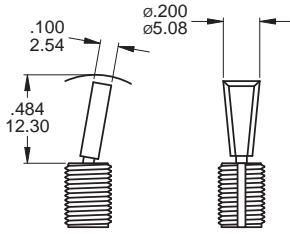
\* Standard function is SPDT, can only applicable with terminal M1 and M2.



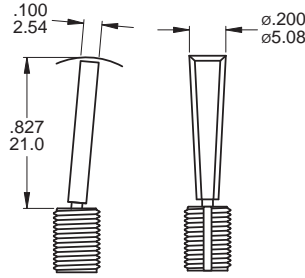
PANEL MOUNTING  
Without locking ring (Flat)

Note: T6, T61, T62, T63 can only be use with B11, B12, B15, B16 bushing.

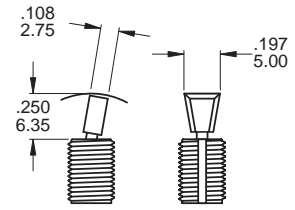
### T6 FLATTED WITH ANTI-ROTATION



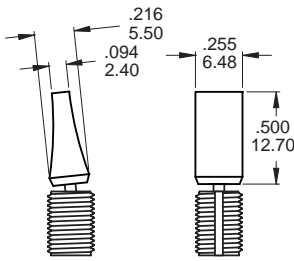
### T61



### T63



### T62 WITH BLACK CAP(STD)



#### Plastic Color :

| ITEM NO | COLOR  |
|---------|--------|
| 1       | White  |
| 3       | Red    |
| 4       | Orange |
| 5       | Yellow |
| 6       | Green  |
| 7       | Blue   |
| 9       | Gray   |

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

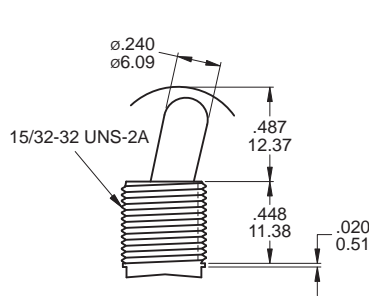
#### EXAMPLE:

1MS1T62M1QES (BLACK STD)

1MS1T62□M1QES

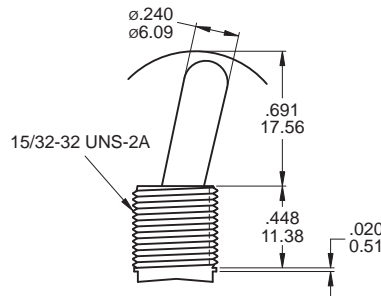
□ Cap Color

### T7



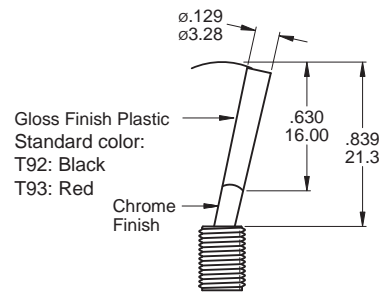
Shown with B13 bushing.  
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 13.00mm.

### T8



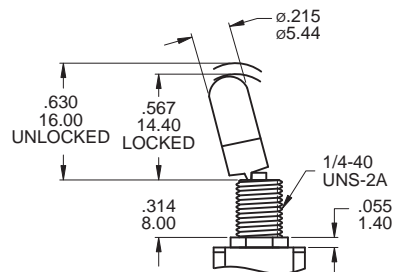
Shown with B13 bushing.  
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 18.00mm.

### T9□

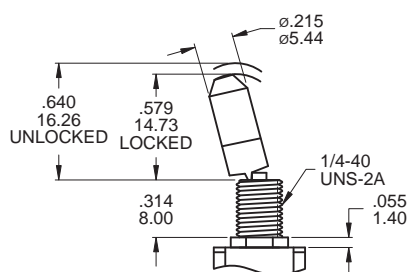


Standard for B1 and B2 bushing.

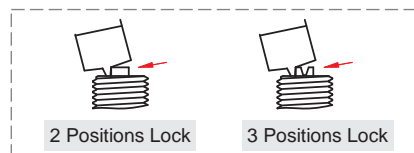
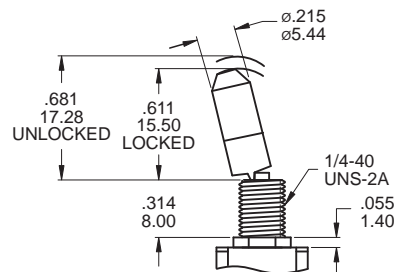
### TL1B25 THD STD B26 NON-THD



### TL2B25 THD STD B26 NON-THD

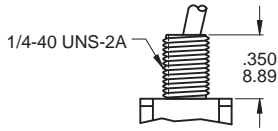
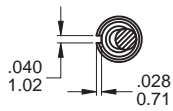


### TL3B25 THD STD B26 NON-THD



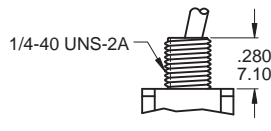
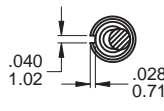
## ▼ BUSHING OPTIONS

**B1** THD STD  
**B2** NON-THD



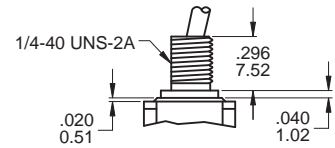
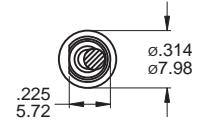
For terminal M6, M7 and VS2-5:  
-.015inch(0.39mm)

**B3** THD  
**B4** NON-THD

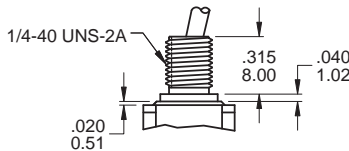
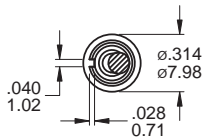


B4 is standard for terminal M6, M7  
and VS2-5.

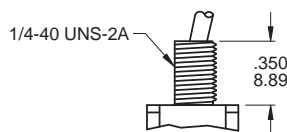
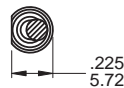
**B5** HIGH TORQUE



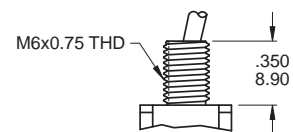
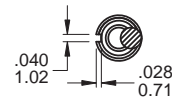
**B6** HIGH TORQUE



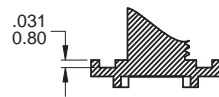
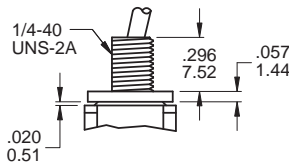
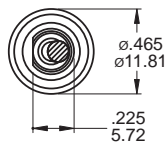
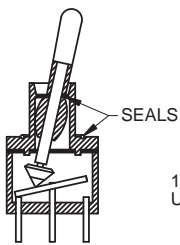
**B7** THD STD



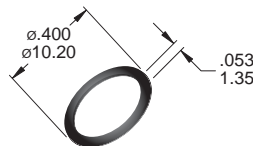
**B8** METRIC THD



**B9** SPLASH PROOF

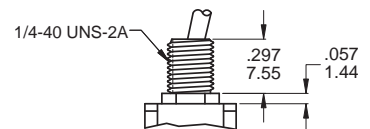
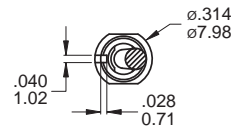


**O-RING**  
Model name. CP-1TEB



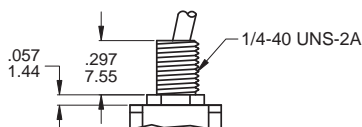
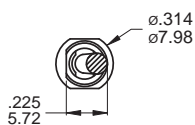
B9 bushing with O-Ring

**B11** THD STD  
**B12** NON-THD



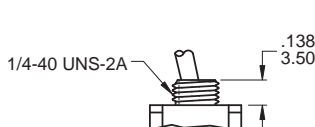
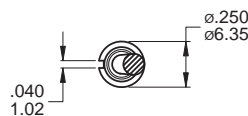
Only available for actuator T6~T63.

**B15** THD STD  
**B16** NON-THD



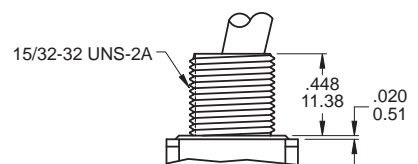
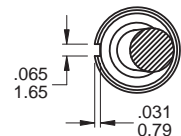
Only available for actuator T6~T63.

**B17**



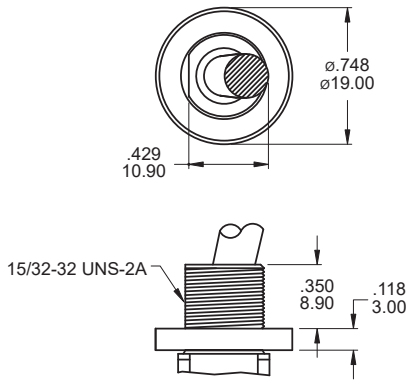
Only available for actuator T2 and the  
length of lever is .311inch(7.90mm).  
Standard for terminal M1, M2

**B13**



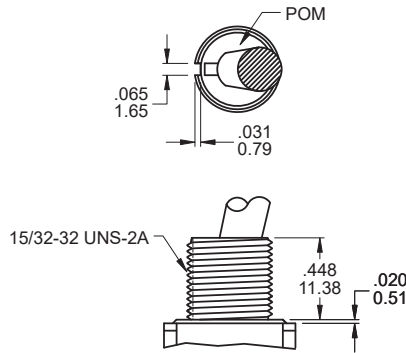
Available with actuator T7 and T8 only.  
Bear strength from top of actuator is up  
to 10 kg, and 15kg from aside.

## B14 SPLASH PROOF



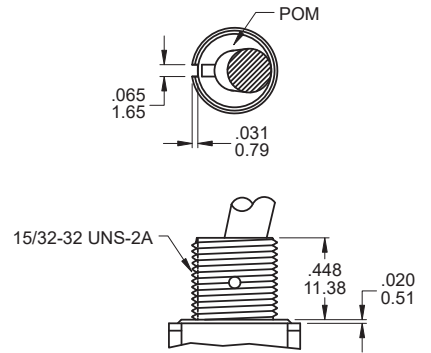
Available with actuator T7 and T8 only.

## B18 \*



Available with actuator T7 and T8 only.  
(with Plastic (POM) Insert)

## B20 \*



Available with actuator T7 and T8 only.  
(with Plastic (POM) Insert)

\* Bear strength from top of actuator is up to 20 kg, and 15kg from aside.

## ▼ TOGGLE CAP

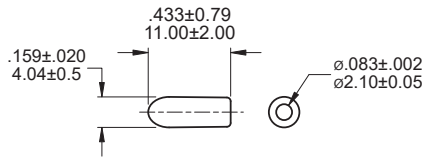


Model name. MCP-1T12 (std.)  
Note: Only available for actuator T1

### CAP Color :

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

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

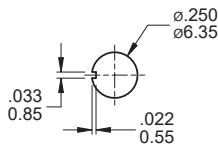


EXAMPLE:            -            T1

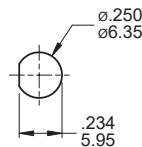
Model name.            Cap color  
 0 No hardware  
 5 Standard hardware

## ▼ PANEL MOUNTING

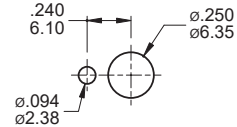
### 1/4 IN BUSHING



Without locking ring (Keyway)



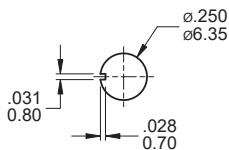
Without locking ring (Flat)



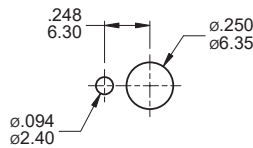
With standard locking ring.

### METRIC BUSHING

Note: For B8 bushing.

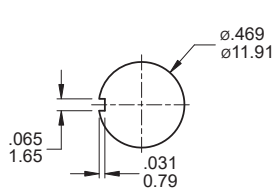


Without locking ring (Keyway)

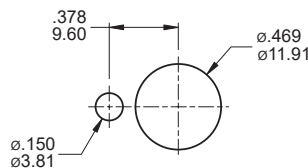


With standard locking ring.

### 15/32 IN BUSHING



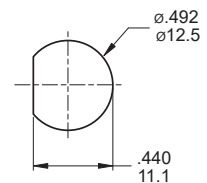
Without locking ring (Keyway)



With standard locking ring.

### SPLASH PROOF BUSHING

Note: For B14 bushing.



Without locking ring (Flat)



# 1M Series

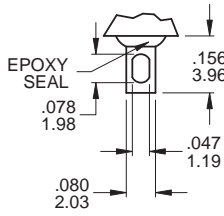
Miniature Toggle Switches



Toggle Switches

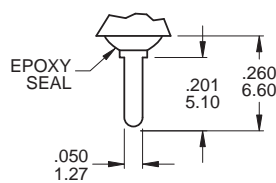
## ▼ TERMINAL OPTIONS

### M1 Solder lug



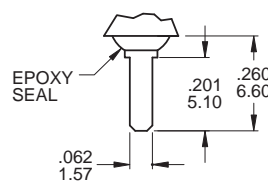
.030inch(0.76mm) THK.

### M2 PC Thru-hole



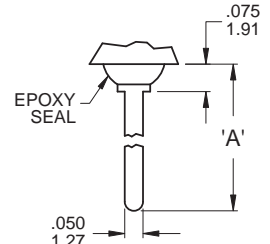
.030inch(0.76mm) THK.

### M3 Quick connect



.030inch(0.76mm) THK.

### M5 Wire Wrap



.030inch(0.76mm) THK.

## ▼ OTHER TERMINAL OPTIONS

**M6** Right angle P.C. Mount

**M7** Vertical right angle P.C. Mount

**VS2** Vertical bracket P.C. Mount

**VS3** Vertical bracket P.C. Mount

**VS5** Vertical bracket P.C. Mount

**M6N** Right angle P.C. Mount

with snap-in bracket

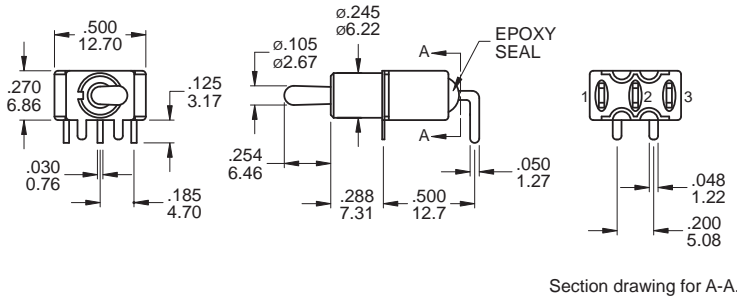
**V2N** Vertical bracket P.C. Mount

with snap-in bracket

| OPTION CODE | DIM. 'A'      |
|-------------|---------------|
| M51         | .736 (18.70)  |
| M52         | .953 (24.20)  |
| M53         | .415 (10.55)  |
| M54         | 1.062 (26.97) |

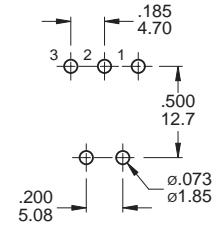
### M6

(M6N - Snap-in)



Model name. 1MS1T2B4M6QES

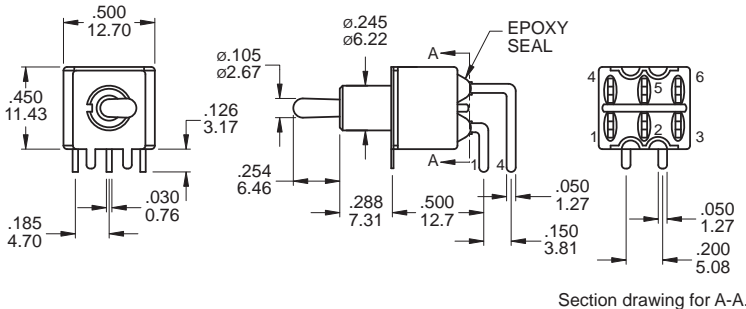
### PCB MOUNTING



### SPDT

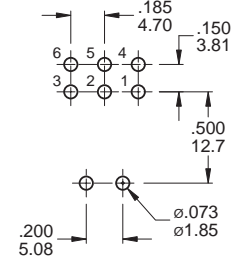
### M6

(M6N - Snap-in)



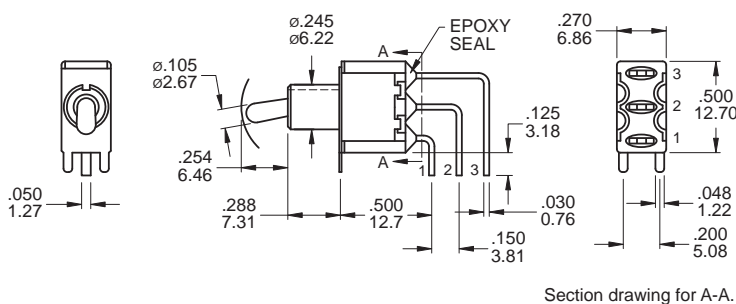
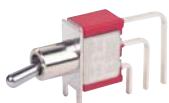
Model name. 1MD1T2B4M6RES

### PCB MOUNTING



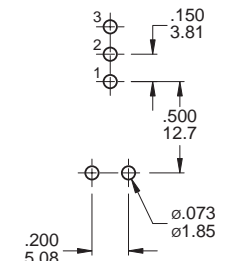
### DPDT

### M7



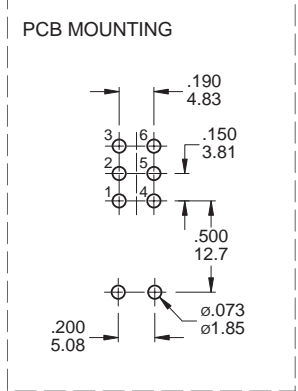
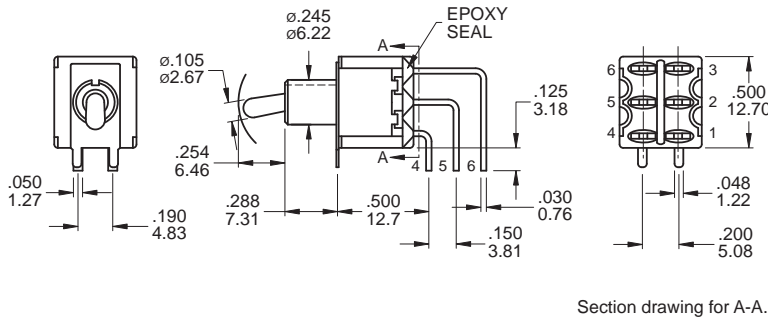
Model name. 1MS1T2B4M7QES

### PCB MOUNTING



### SPDT

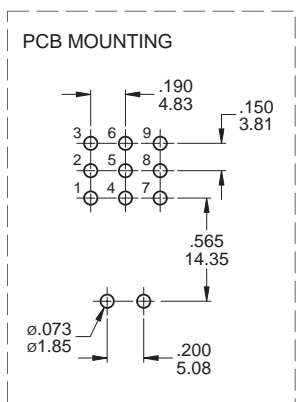
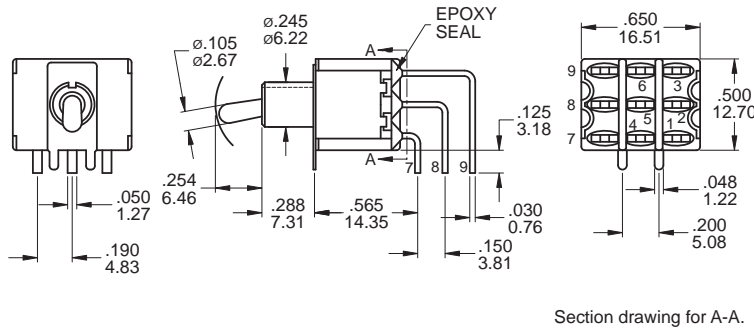
## M7



### DPDT

Model name. 1MD1T2B4M7QES

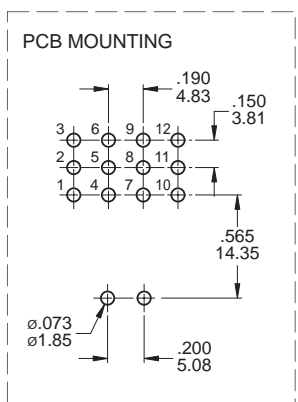
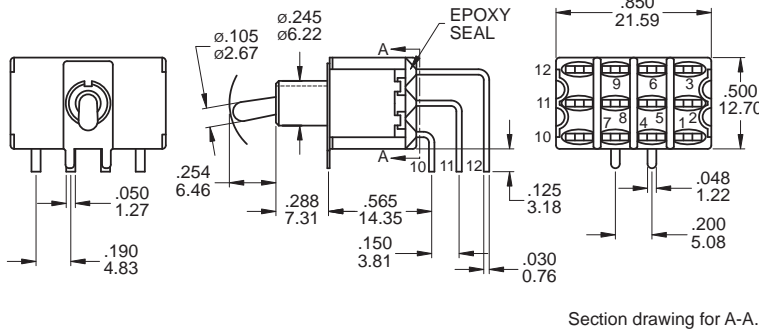
## M7



### 3PDT

Model name. 1M31T2B4M7QES

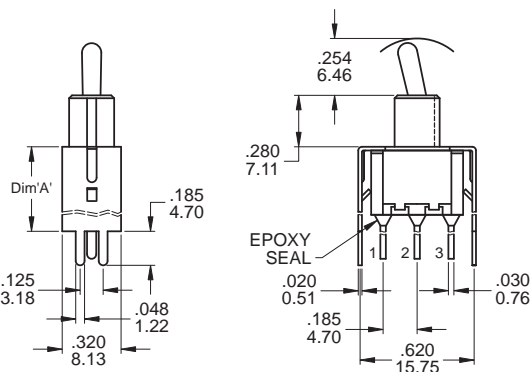
## M7



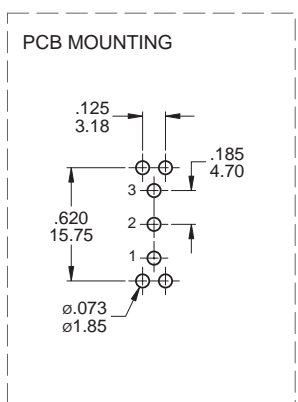
### 4PDT

Model name. 1M41T2B4M7QES

## VS2 / VS3 (V2N - Snap-in)



| OPTION CODE | DIM. 'A'      |
|-------------|---------------|
| VS2 (V2N)   | .460<br>11.68 |
| VS3         | .630<br>16.00 |



### SPDT

Model name. 1MS1T2B4VS2QES

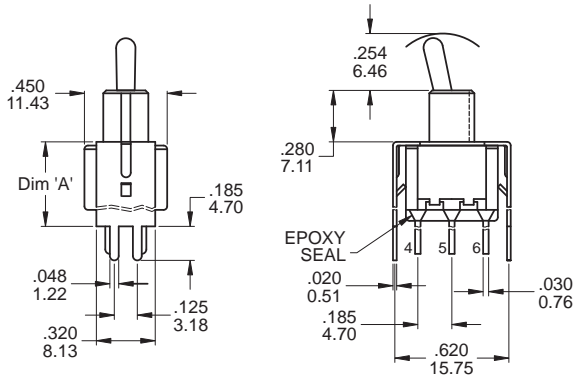
# 1M Series

## Miniature Toggle Switches



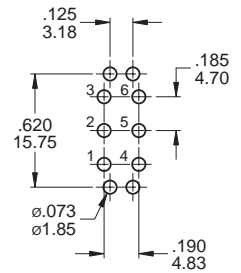
1M Series  
Toggle Switches

### VS2 / VS3 (V2N - Snap-in)



| OPTION CODE | DIM. 'A'      |
|-------------|---------------|
| VS2 (V2N)   | .460<br>11.68 |
| VS3         | .630<br>16.00 |

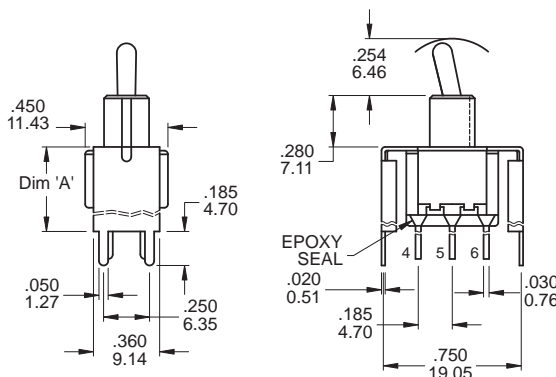
#### PCB MOUNTING



#### DPDT

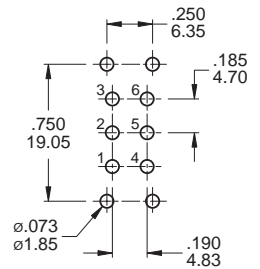
Model name. 1MD1T2B4VS2QES

### VS4 / VS5



| OPTION CODE | DIM. 'A'      |
|-------------|---------------|
| VS4         | .460<br>11.68 |
| VS5         | .630<br>16.00 |

#### PCB MOUNTING

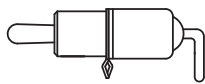
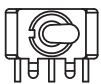


#### DPDT

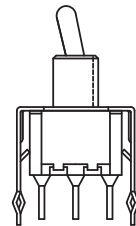
Model name. 1MD1T2B4VS5QES

## ▼ SNAP-IN TERMINAL OPTIONS

### M6N



### V2N



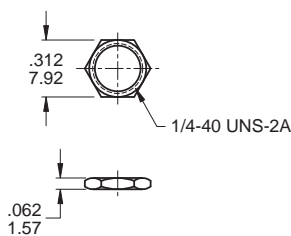
## ▼ HARDWARE

EXAMPLE:  Model name.  5 Standard hardware

\* Standard for B1 bushing : 2 nut, 1 locking ring, 1 lockwasher  
 \* For further information please consult sales representativity.

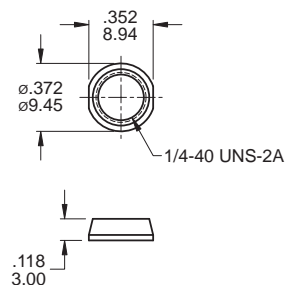
### 1/4 NUT (Std.)

Model name. MNU-1M01A



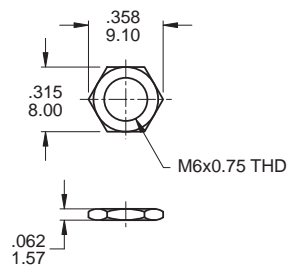
### DRESS NUT

Model name. MNU-1M29  
 MOQ: 10K



### METRIC NUT (Std.)

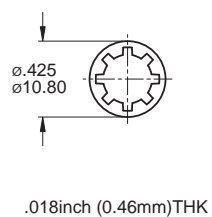
Model name. MNU-1M04



Available with bushing B8 only.

### LOCKWASHER (Std.)

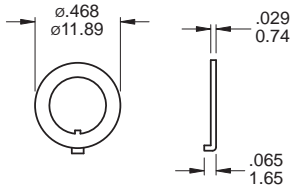
Model name. MNU-1M03



For 1/4-40 UNS-2A bushing

### LOCKING RING (Std.)

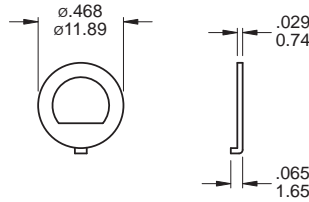
Model name. MNU-1M02



For 1/4-40 UNS-2A bushing

### LOCKING RING (Std.)

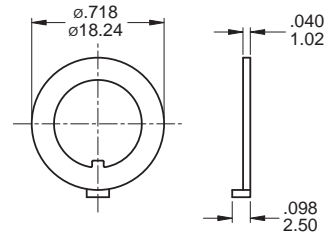
Model name. MNU-1M11



Available with bushing B5 only.

### LOCKING RING (Std.)

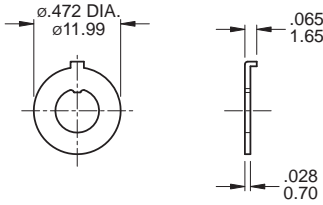
Model name. MNU-1M08



For 15/32-32 UNS-2A bushing

### LOCKING RING (Std.)

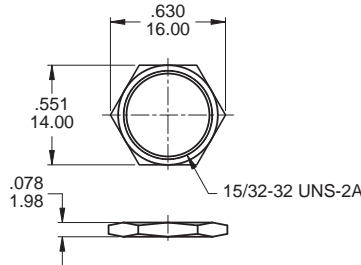
Model name. MNU-1M05



Available with bushing B8 only.

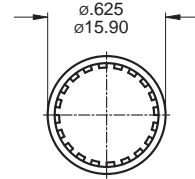
### 15/32 NUT (Std.)

Model name. MNU1M07



### LOCKWASHER (Std.)

Model name. MNU-1M09



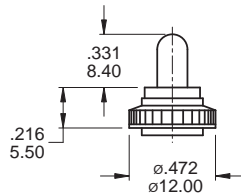
For 15/32-32 UNS-2A bushing

### RUBBER HOOD SEALING

Model name.

E1-RUBBER HOOD(Inch) (Std.)

K1-RUBBER HOOD-K1(Metric) MOQ: 2K

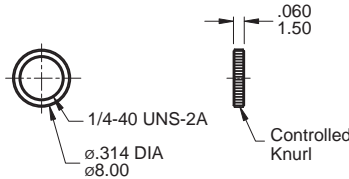


Note: For actuator T1, T2 and B1, B3, B5, B6 Bushing only

### DRESS NUT

Model name. MNU-1M18

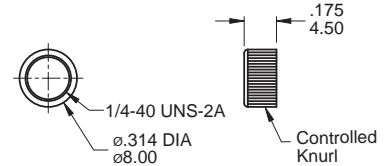
MOQ: 10K



### DRESS NUT

Model name. MNU-1M24

MOQ: 10K



## ▼ CONTACT & TERMINAL PLATING OPTIONS

|   | CONTACT PLATING  | TERMINAL PLATING | RATINGS   |
|---|------------------|------------------|---|
| Q | Silver           | Silver           | 5 Amps with resistant load @ 120VAC or 28VDC        |
| C | Gold over Silver | Gold over silver | 2 Amps with resistant load @ 250VAC                 |
| R | 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)