



### SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material See page 99.

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

**CONTACT RESISTANCE:** 20m  $\Omega$  max. Initial @ 2-4VDC  
100mA for both silver and gold plated contacts.

**INSULATION RESISTANCE:** 1,000M  $\Omega$  min.

**DIELECTRIC STRENGTH:** 1,000 V RMS@seal level.

**OPERATING TEMPERATURE:** -30°C to 85°C.

### MATERIALS

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

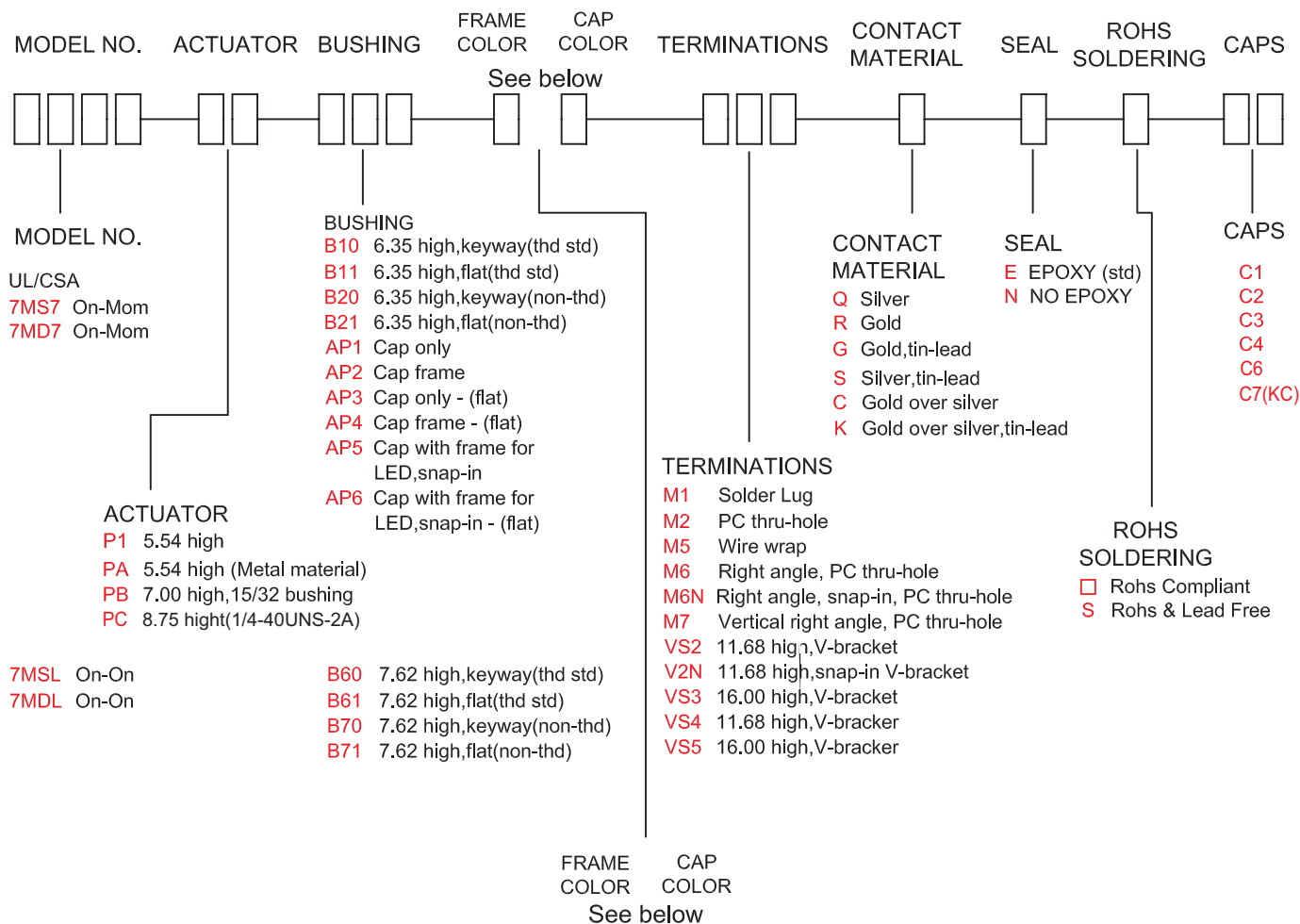
**PLUNGER** - Glass filled Nylon or Glass filled polyester.

**BUSHING** - Brass,nickel plated.

**HOUSING** - Stainless Steel.

**CONTACT** - Silver or gold plated. (See Page 112)

### HOW TO ORDER



### SWITCH FUNCTION

NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
			POS.1	POS.2	POS.1	POS.2	
SP	Q2717	7MS7	ON	MOM	1-3	1-2	
DP	Q2727	7MD7	ON	MOM	1-3,4-6	1-2,4-5	

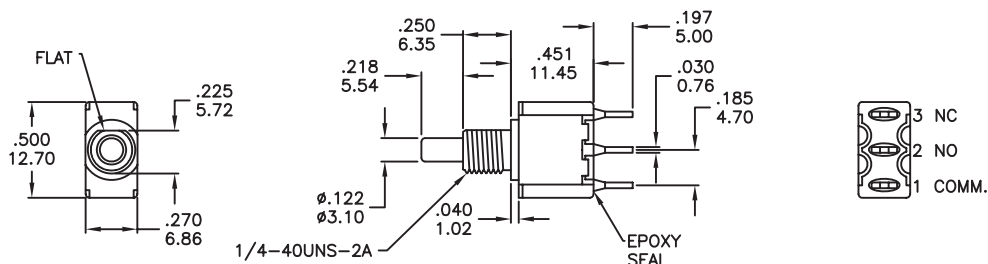
MOM=MOMENTARY

### POLE OPTIONS



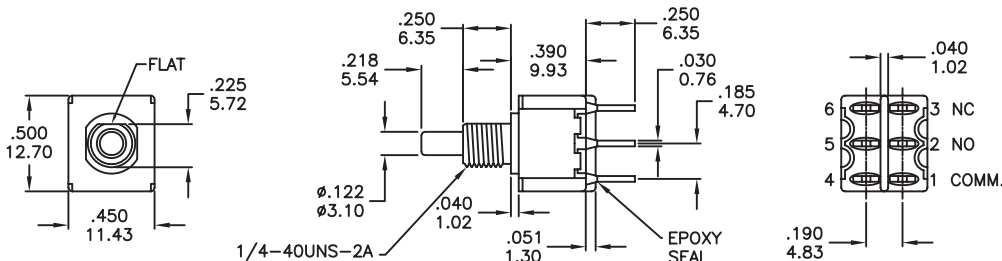
SPDT

Part No. Shown : 7MS7P1B11M1QE



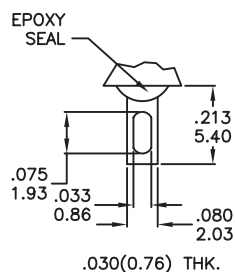
DPDT

Part No. Shown : 7MD7P1B11M2QE

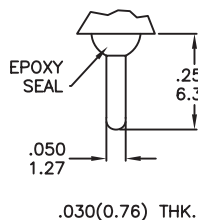


### TERMINATION OPTIONS

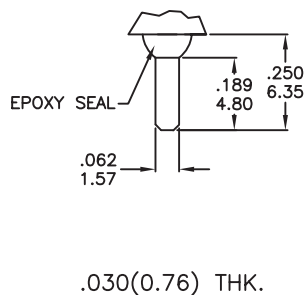
#### M1 SOLDER LUG



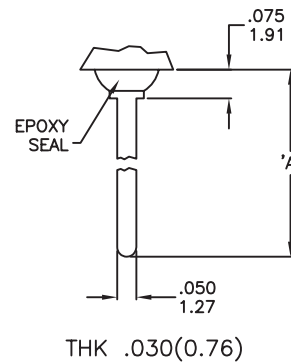
#### M2 P.C. MOUNT



#### M3 QUICK CONNECT



#### M5 WIRE WRAP



#### OTHER TERMINATION OPTIONS

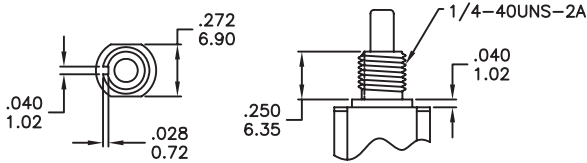
- M6 RIGHT ANGLE P.C. MOUNT
- M7 RIGHT ANGLE P.C. MOUNT
- VS2 VERTICAL SUPPORT P.C. MOUNT
- VS3 VERTICAL SUPPORT P.C. MOUNT
- VS4 VERTICAL SUPPORT P.C. MOUNT
- VS5 VERTICAL SUPPORT P.C. MOUNT

RE Mating Quick Connector  
Amp P/N 60900-1

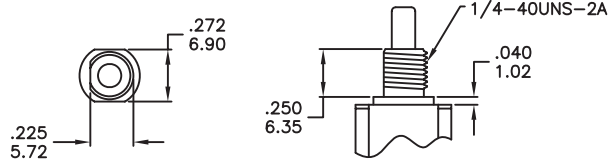
OPTION CODE	DIM. 'A'
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.426(10.80)
M5-4	.650(16.50)

### BUSHING OPTIONS

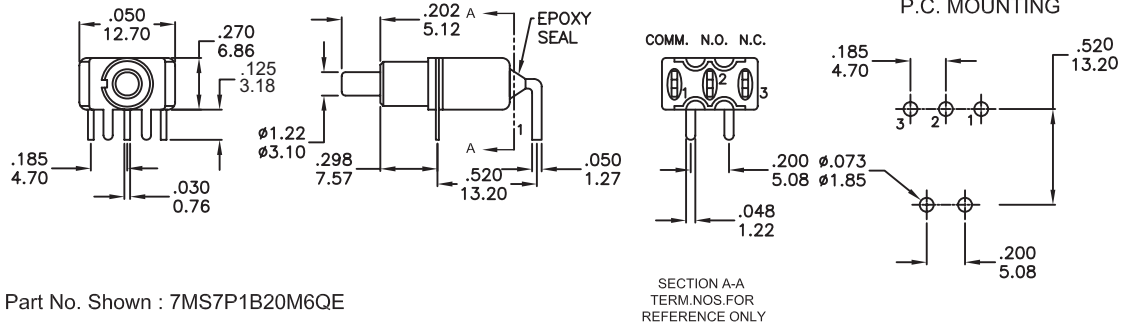
**B10 THD STD**  
**B20 NON-THD**



**B11 THD STD**  
**B21 NON-THD**

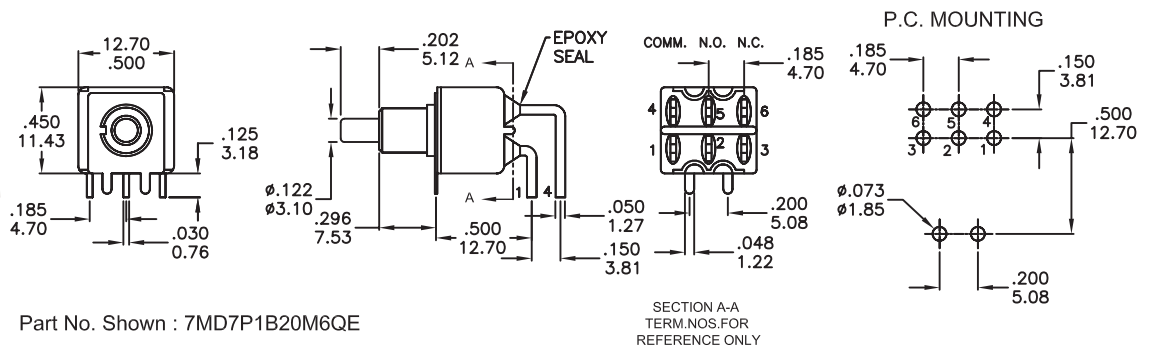


**M6**



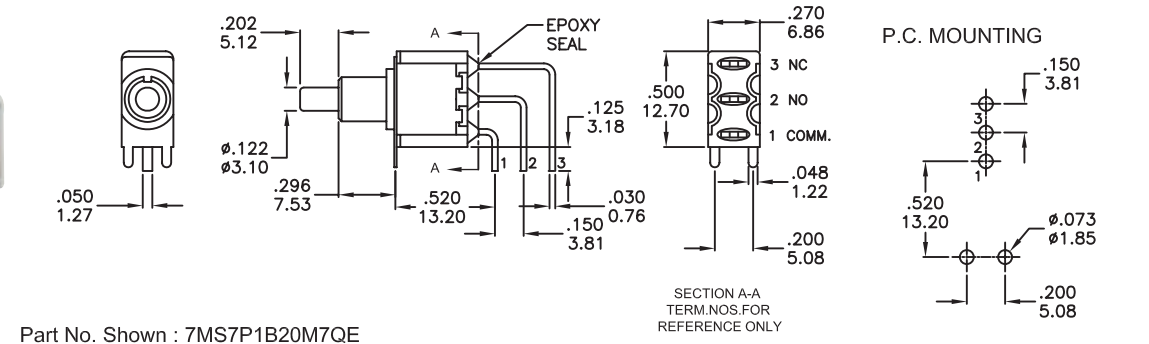
**SPDT**

**M6**



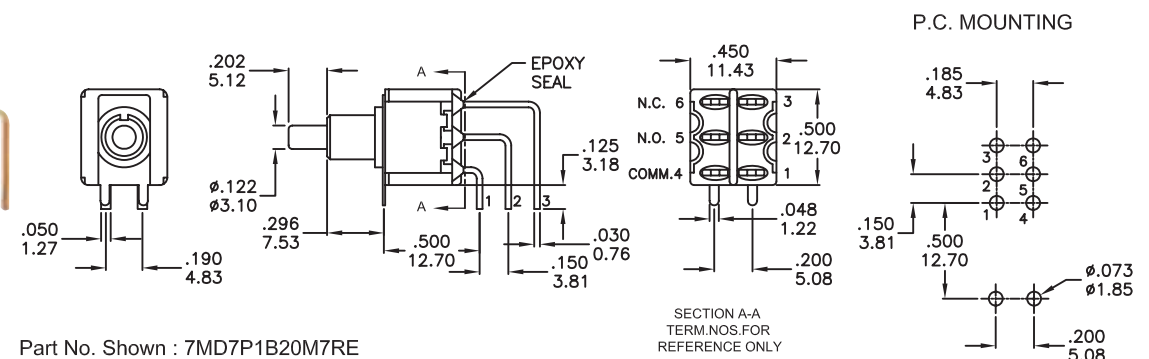
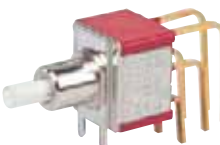
**DPDT**

**M7**



**SPDT**

**M7**

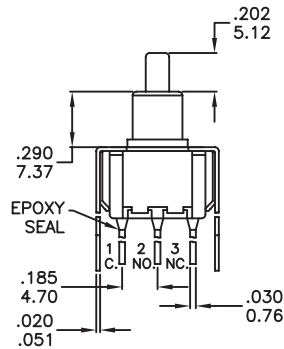
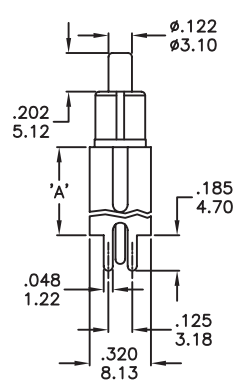


**DPDT**

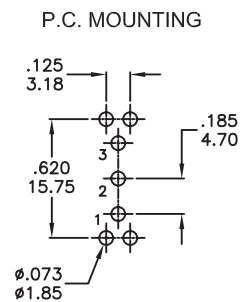
### VS2-VS3



#### SPDT



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

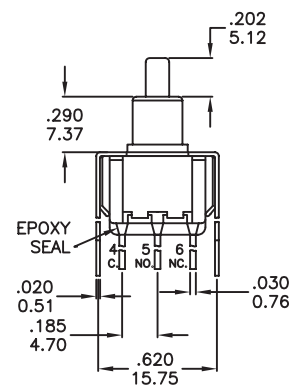
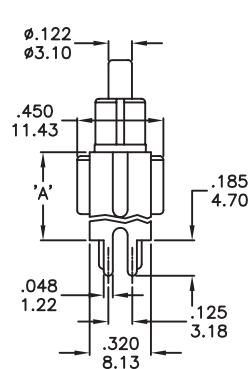


Part No. Shown : 7MS7P1B20V2RE

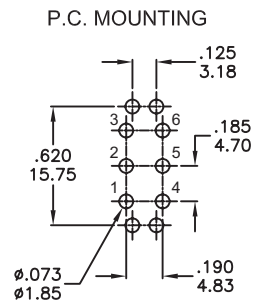
### VS2



#### DPDT



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

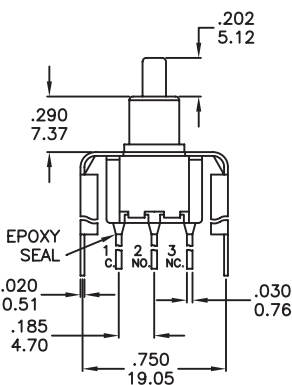
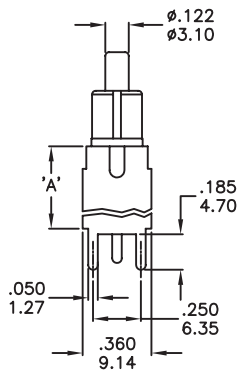


Part No. Shown : 7MD7P1B20V2QE

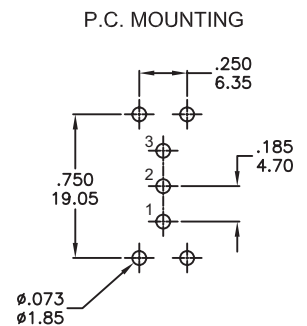
### VS4-VS5



#### SPDT



OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00

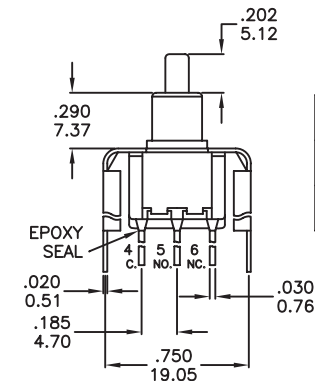
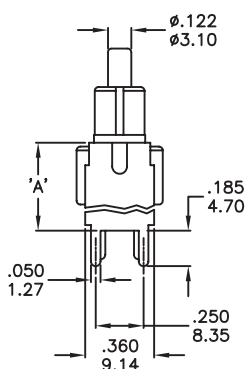


Part No. Shown : 7MS7P1B20V4QE

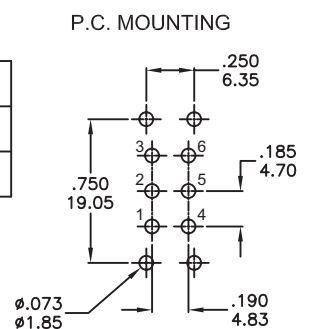
### VS4-VS5



#### DPDT



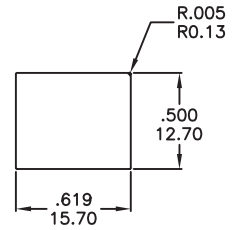
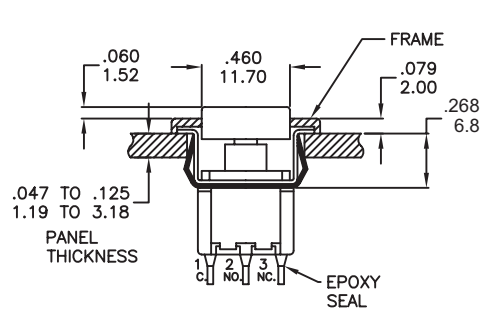
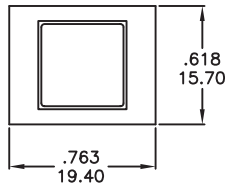
OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00



Part No. Shown : 7MD7P1B20V4QE

### PANEL MOUNT

#### AP2 CAP & FRAME / AP1 CAP ONLY



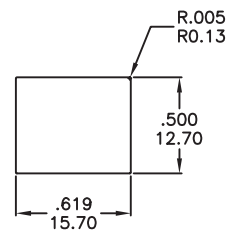
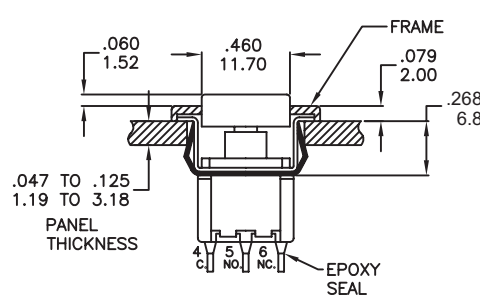
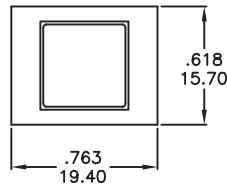
INCREASE TO .620/.625 15.75/15.88  
FOR .091/.125 2.31/3.18 THK PANEL

PANEL LAYOUT

SPDT

Part No. Shown : 7MS7AP223M1QE

#### AP2 CAP & FRAME / AP1 CAP ONLY



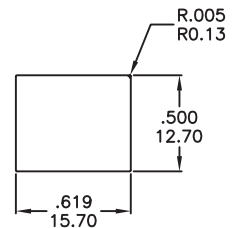
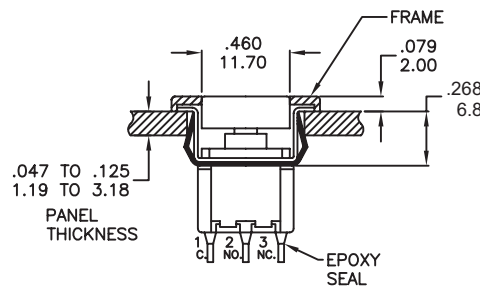
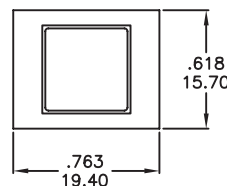
INCREASE TO .620/.625 15.75/15.88  
FOR .091/.125 2.31/3.18 THK PANEL

PANEL LAYOUT

DPDT

Part No. Shown : 7MD7AP223M1QE

#### AP4 CAP & FRAME / AP3 CAP ONLY



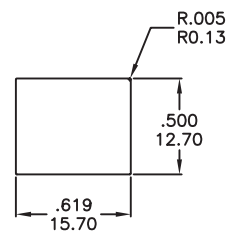
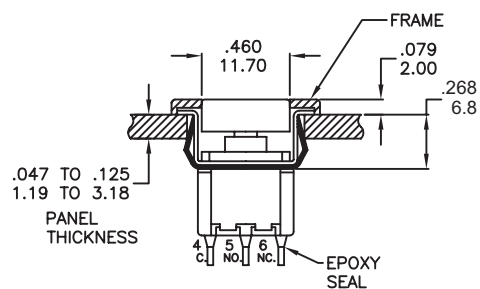
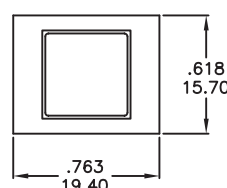
INCREASE TO .620/.625 15.75/15.88  
FOR .091/.125 2.31/3.18 THK PANEL

PANEL LAYOUT

SPDT

Part No. Shown : 7MS7AP423M1RE

#### AP4 CAP & FRAME / AP3 CAP ONLY



INCREASE TO .620/.625 15.75/15.88  
FOR .091/.125 2.31/3.18 THK PANEL

PANEL LAYOUT

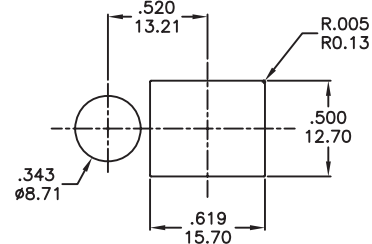
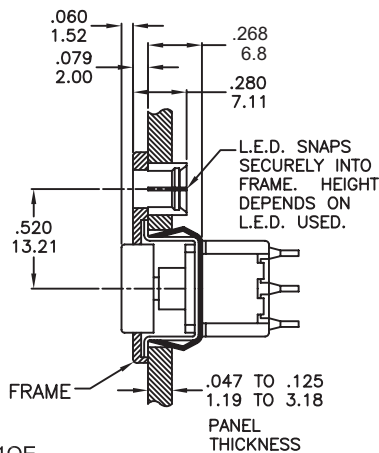
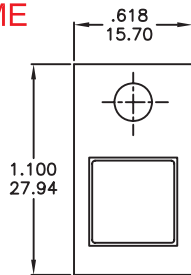
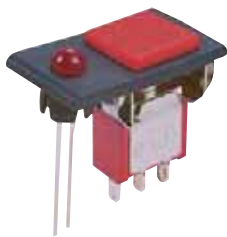
DPDT

Part No. Shown : 7MD7AP423M1RE

# 7M Series

## Snap-Acting Pushbutton Switches

### AP5 CAP & FRAME



PANEL LAYOUT

### SPDT

Part No. Shown : 7MS7AP523M1QE

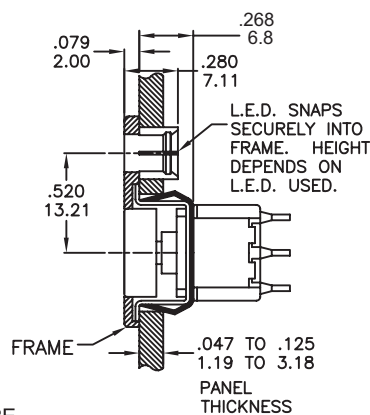
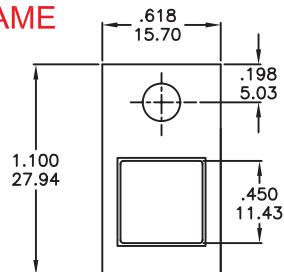
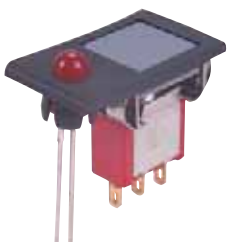
### CAP AND FRAME COLORS

OPTION CODE	COLOR
1	WHITE
2	BLACK(std)
3	RED

### LED COLORS

OPTION CODE	COLOR
3	RED(std)
4	ORANGE
6	GREEN

### AP6 CAP & FRAME

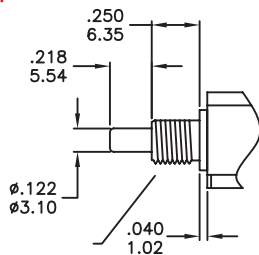


Part No. Shown : 7MS7AP623M1RE

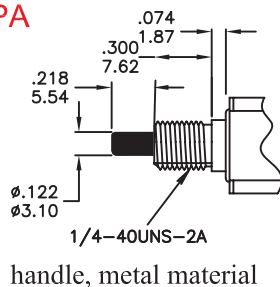
### DPDT

## ACTUATOR

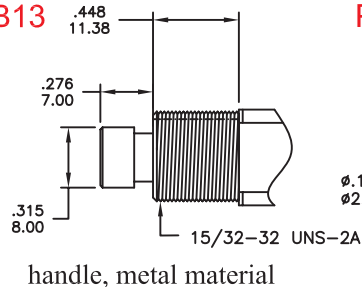
### P1



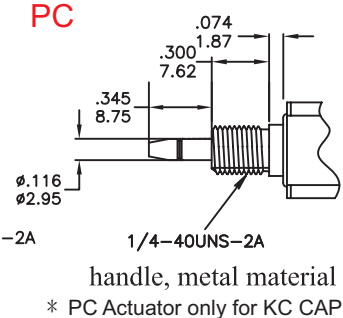
### PA



### PBB13



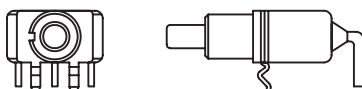
### PC



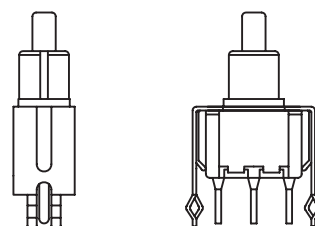
\* PC Actuator only for KC CAP

## SNAP-IN TERMINATION OPTIONS





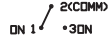
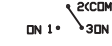
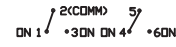

### M6N



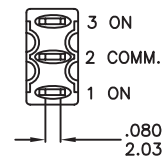
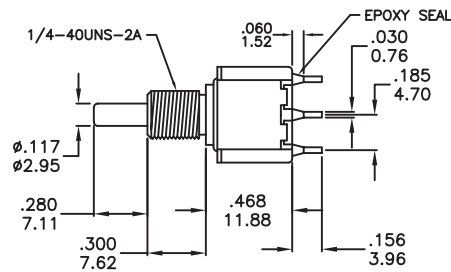
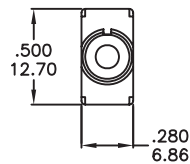
### V2N



### SWITCH FUNCTION

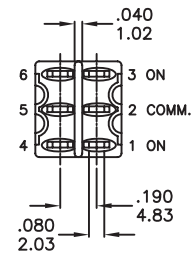
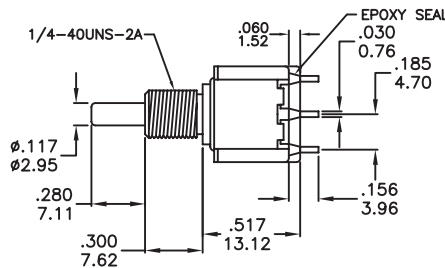
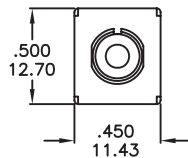
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS/SCHEMATIC			
			POS.1	POS.2	POS.1		POS.2	
								
SP	Q271L	7MSL	ON	ON	1-2		2-3	
DP	Q272L	7MDL	ON	ON	1-2,4-5		2-3,5-6	

### POLE OPTIONS



SPDT

Part No. Shown : 7MSLP1B60M1QE

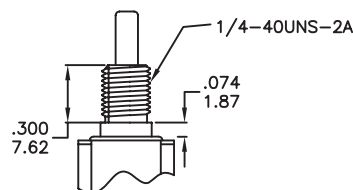
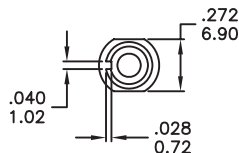


DPDT

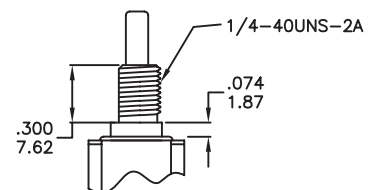
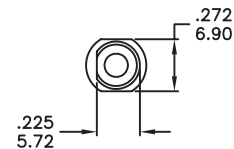
Part No. Shown : 7MDLP1B60M1QE

### BUSHING OPTIONS

B60 THD STD  
B70 NON-THD



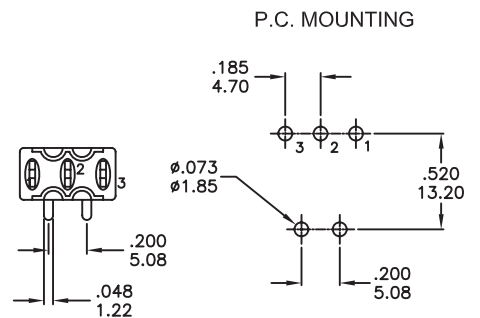
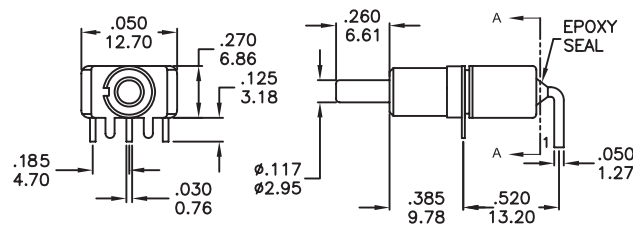
B61 THD STD  
B71 NON-THD





### TERMINATION OPTIONS

M6

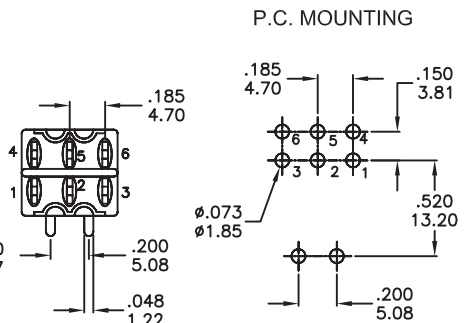
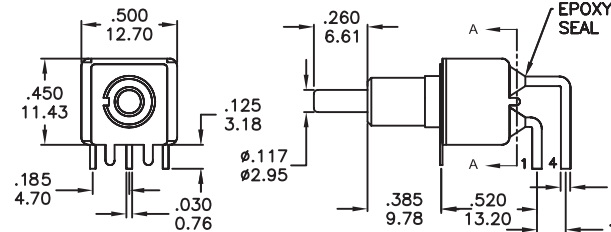


SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

SPDT

Part No. Shown : 7MSLP1B70M6QE

M6

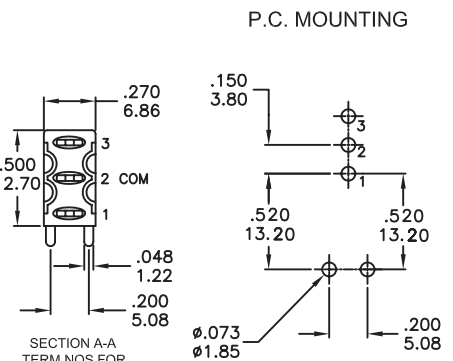
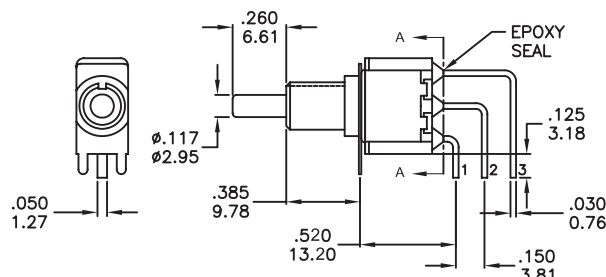


SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

DPDT

Part No. Shown : 7MDLP1B70M6QE

M7

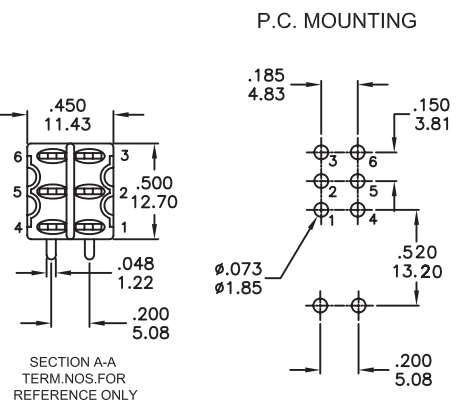
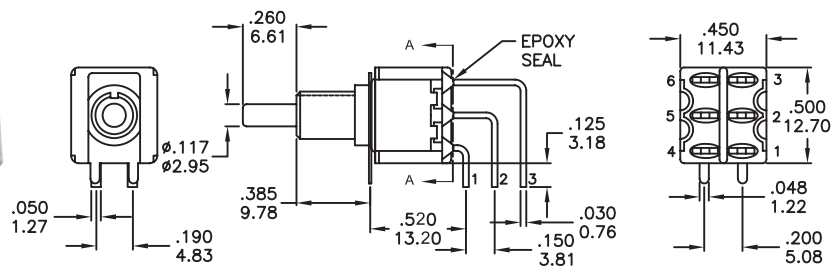
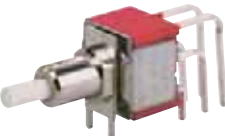


SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

SPDT

Part No. Shown : 7MSLP1B70M7QE

M7



SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

DPDT

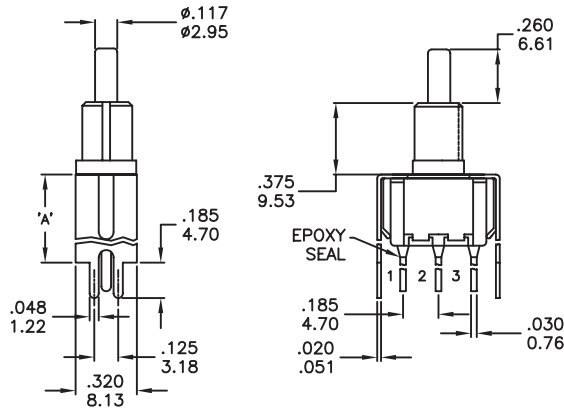
Part No. Shown : 7MDLP1B70M7QE



VS2-VS3

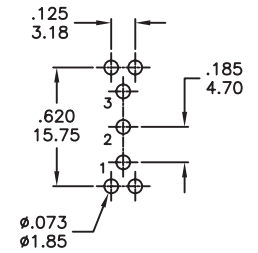


SPDT



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

P.C. MOUNTING

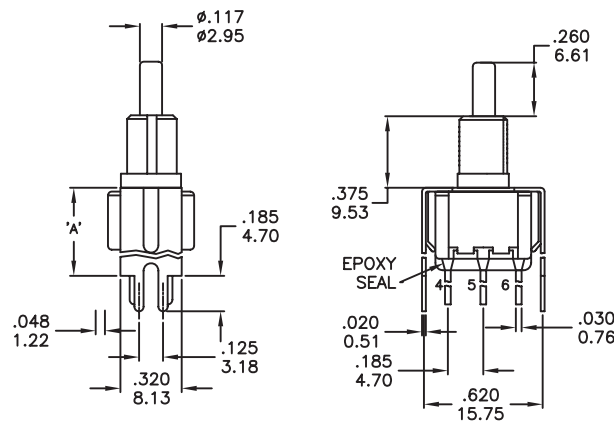


Part No. Shown : 7MSLP1B70V2QE

VS2-VS3

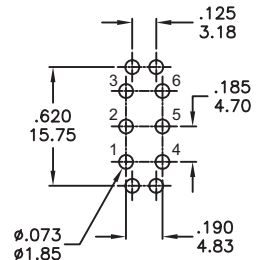


DPDT



OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00

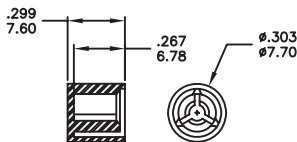
P.C. MOUNTING



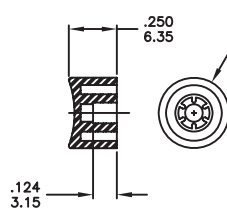
Part No. Shown : 7MDLP1B70V2QE

### CAPS

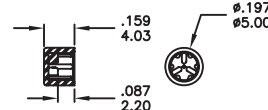
C1



C2



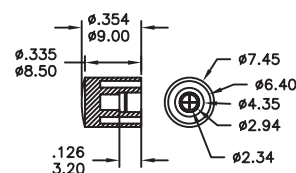
C3



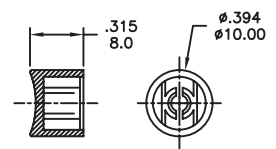
C4



C6



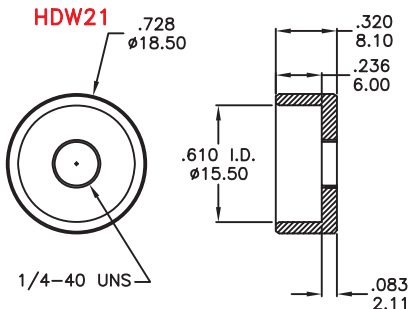
C7(KC)



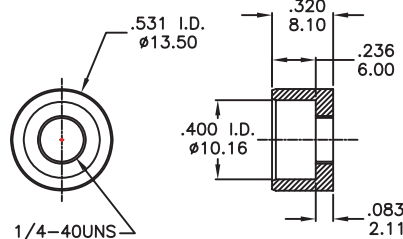
Colors: White, Black, Green, Red

### HARDWARE

HDW21

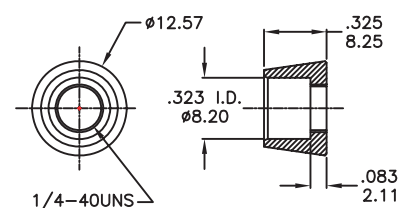


HDW22



FOR CAP:C2

HDW23



FOR CAP:C1

### CONTACT MATERIAL OPTIONS

	CONTACT MATERIAL	TERMINATION RATING	RATINGS
<b>Q</b>	<b>Silver</b>	<b>Q</b> = Silver	3 Amps with resistant load @ 120VAC or 28VDC 1 Amps with resistant load @ 250VAC
<b>S</b>		<b>S</b> = Silver,pure - tin	
<b>C</b>	<b>Gold over Silver</b>	<b>C</b> = Gold over silver	
<b>K</b>		<b>K</b> = Gold over silver,pure - tin	
<b>R</b>	<b>Gold</b>	<b>R</b> = Gold	0.4 Volt-Amps(VA)max. @ 20V max. (AC or DC)
<b>G</b>		<b>G</b> = Gold,pure - tin	



### SOLDERING PROCESSES

**MANUAL SOLDERING** : Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

**WAVE SOLDERING** : Recommended Soldering Temperature: 260±5°C  
Duration of Solder Immersion: 5 ±1 seconds  
(PCB is 1.6mm in thickness)

**SOLDERING** : Vapor phase

### Temperature Profile

Zone	Room temperature	Time ( Sec )
Pre-heat ( A )	150°C	Min 120s
Soak ( B )	180°C~200°C	Min 150s
Peak ( C )	200°C~235°C	Min 30s
Peak ( D )	235°C~260°C	Min 40s
Peak ( E )	260°C	Max 10s

