



### SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material See Page 56.

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

**CONTACT RESISTANCE:** 10 mΩ max. initial @ 2-4VDC  
100mA for both silver and gold plated contacts.

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

**DIELECTRIC STRENGTH:** 1,000 Vrms min. @sea level.

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

### MATERIALS

**CASE:** Diallyl phthalate (DAP) (UL94v-0).

**ACTUATOR:** Nylon, black std.

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

**HOUSING:** Stainless Steel.

**SWITCH SUPPORT:** Brass, tin plated or stainless steel.

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

(See Page 56)



3M  
Rocker Switches

## HOW TO ORDER

MODEL NO.      ACTUATOR      ACTUATOR COLOR      ACTUATOR MARKING      TERMINATIONS      TERMINAL SEAL      RoHS SOLDERING



Model NO.

- 3MS1 SP ON-NONE-ON
- 3MS2 SP ON-NONE-(ON)
- 3MS3 SP ON-OFF-ON
- 3MS4 SP (ON)-OFF-(ON)
- 3MS5 SP ON-OFF-(ON)
- 3MD1 DP ON-NONE-ON
- 3MD2 DP ON-NONE-(ON)
- 3MD3 DP ON-OFF-ON
- 3MD4 DP (ON)-OFF-(ON)
- 3MD5 DP ON-OFF-(ON)
- 3MD6 DP ON-ON-ON
- 3MD7 DP (ON)-ON-(ON)
- 3MD8 DP ON-ON-(ON)
- 3M31 3P ON-NONE-ON
- 3M32 3P ON-NONE-(ON)
- 3M33 3P ON-OFF-ON
- 3M34 3P (ON)-OFF-(ON)
- 3M35 3P ON-OFF-(ON)
- 3M41 4P ON-NONE-ON
- 3M42 4P ON-NONE-(ON)
- 3M43 4P ON-OFF-ON
- 3M44 4P (ON)-OFF-(ON)
- 3M45 4P ON-OFF-(ON)
- 3M46 4P ON-ON-ON
- 3M47 4P (ON)-ON-(ON)
- 3M48 4P ON-ON-(ON)

Actuator

- R1 13.49 long rocker-support
- R2 Lever-support
- R3 23.01 long rocker-support
- R4 Lever-support
- R5 33.48 long rocker-support
- R11 9.19 long rocker-support
- R12 Lever-support
- R13 Lever-support
- R16 Lever-support
- RB 17.75 long rocker-support
- P.C. Mount only**
- J1 13.49 long rocker
- J2 Lever
- J3 23.01 long rocker
- J4 Lever
- J5 9.19 long rocker
- J6 Lever
- J7 Lever
- J8 Lever
- JB 17.75 long rocker

Actuator Color

ITEM NO	COLOR
0	Without
1	White
2	Black (Std)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

\* Besides standard color, other colors need to check stocks available.

FRAME

- R6 Rocker
- R7 Lever
- R8 Lever
- R9 Lever
- R17 Rocker with frame for LED, snap-in
- R18 Lever with frame for LED, snap-in

FRAME COLOR      ACTUATOR COLOR

ITEM NO	COLOR
0	Without
1	White
2	Black (Std)
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

\* Besides standard color, other colors need to check stocks available.

Actuator marking

1	⊙ —
2	⊙
5	← →
6	⊙
7	— •
8	⊙
L	ON OFF
J	⊙ —

Terminal plating

- Q Silver
- R Gold
- C Gold over silver

Seal

- E EPOXY (std)
- N NO EPOXY

RoHS soldering

- S RoHS & Lead Free

Terminations

- M1 Solder Lug
- M2 PC thru-hole
- M3 Quick Connect
- M51 18.70 high, wire wrap
- M52 24.20 high, wire wrap
- M53 10.55 high, wire wrap
- M54 26.97 high, wire wrap
- M6 Right angle, PC thru-hole
- M7 Vertical right angle, PC thru-hole
- VS2 11.68 high, V-bracket
- V2N 11.68 high, snap-in V-bracket
- VS3 16.00 high, V-bracket
- VS4 11.68 high, V-bracket
- VS5 16.00 high, V-bracket

# 3M Series

Miniature Rocker & Paddle Switches

## SWITCH FUNCTION



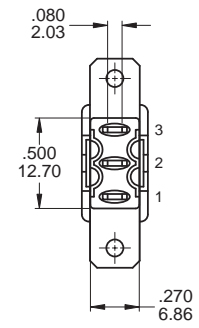
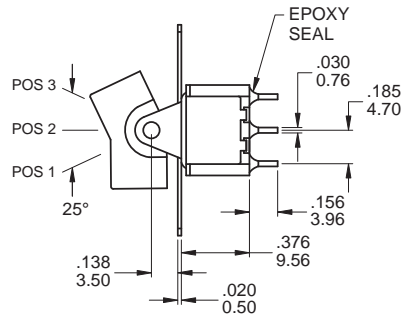
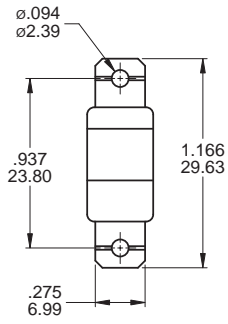
3M  
Rocker Switches

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	Q1311	3MS1	ON	NONE	ON		N/A	
	Q1312	3MS2	ON	NONE	(ON)			
	Q1313	3MS3	ON	OFF	ON			
	Q1314	3MS4	(ON)	OFF	(ON)			
	Q1315	3MS5	ON	OFF	(ON)			
DP	Q1321	3MD1	ON	NONE	ON		N/A	
	Q1322	3MD2	ON	NONE	(ON)			
	Q1323	3MD3	ON	OFF	ON			
	Q1324	3MD4	(ON)	OFF	(ON)			
	Q1325	3MD5	ON	OFF	(ON)			
	Q1326	3MD6	ON	ON	ON			
	▲ Q1327	3MD7	(ON)	ON	(ON)			
	▲ Q1328	3MD8	ON	ON	(ON)			
3P	Q1331	3M31	ON	NONE	ON		N/A	
	Q1332	3M32	ON	NONE	(ON)			
	Q1333	3M33	ON	OFF	ON			
	Q1334	3M34	(ON)	OFF	(ON)			
	Q1335	3M35	ON	OFF	(ON)			
4P	Q1341	3M41	ON	NONE	ON		N/A	
	Q1342	3M42	ON	NONE	(ON)			
	Q1343	3M43	ON	OFF	ON			
	Q1344	3M44	(ON)	OFF	(ON)			
	Q1345	3M45	ON	OFF	(ON)			
	Q1346	3M46	ON	ON	ON			
	▲ Q1347	3M47	(ON)	ON	(ON)			
	▲ Q1348	3M48	ON	ON	(ON)			

( )=MOMENTARY

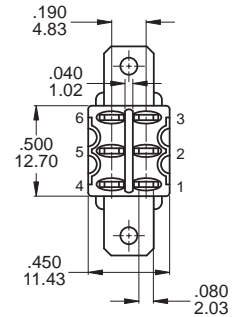
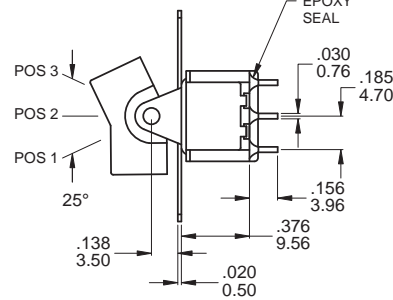
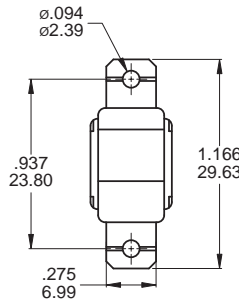
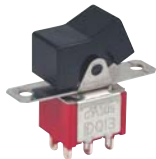
▲ Please check the availability in advance before order

### POLE OPTIONS



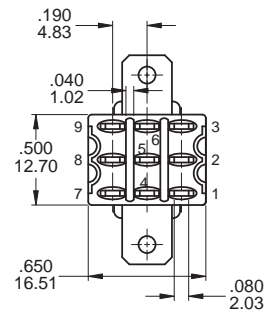
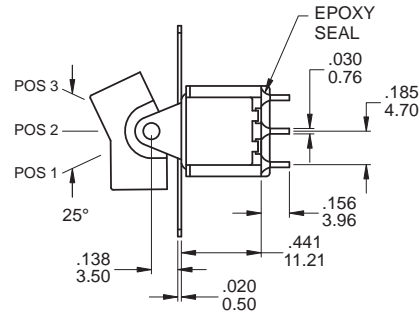
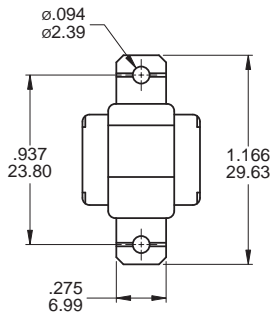
**SPDT**

Part No. Shown : 3MS1R102M1QES



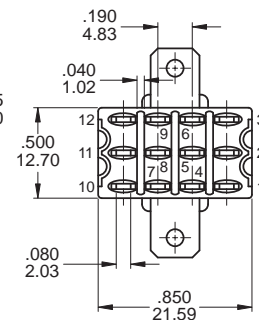
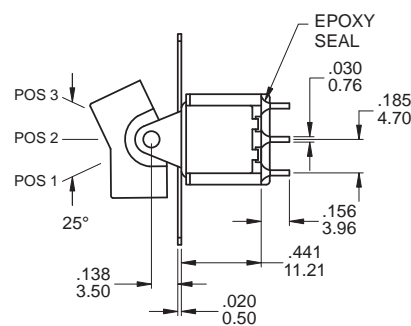
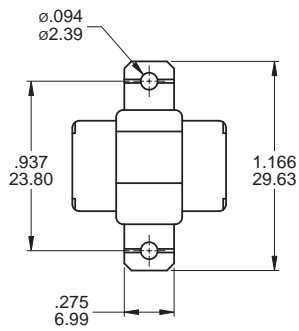
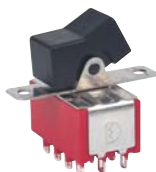
**DPDT**

Part No. Shown : 3MD1R102M1QES



**3PDT**

Part No. Shown : 3M31R102M1QES



**4PDT**

Part No. Shown : 3M41R102M1QES



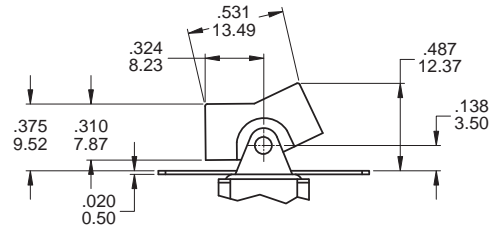
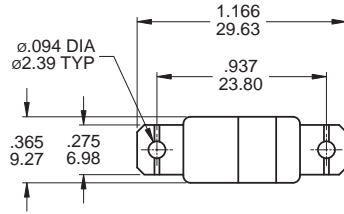
3M  
Rocker Switches

# 3M Series

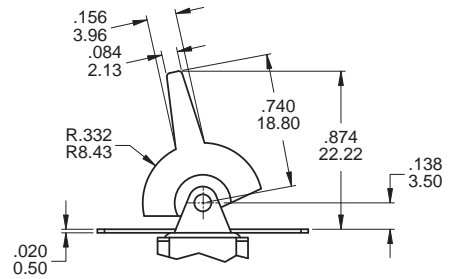
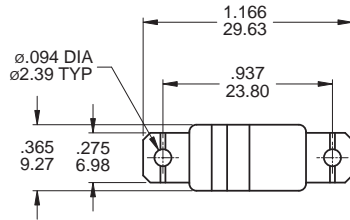
Miniature Rocker & Paddle Switches

## ACTUATOR OPTIONS FOR PANEL MOUNT ONLY

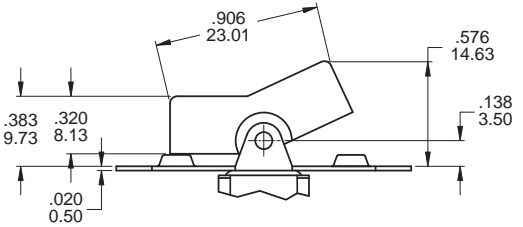
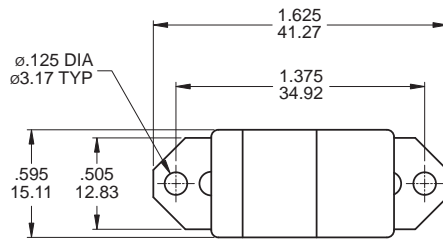
R1



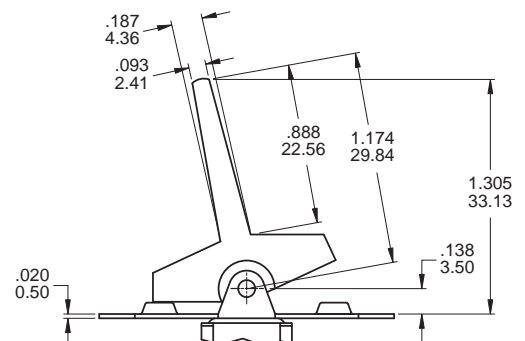
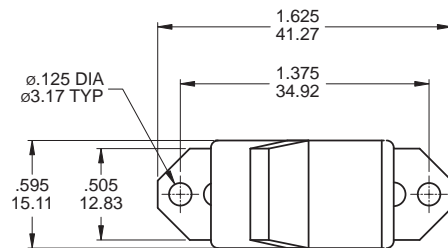
R2



R3

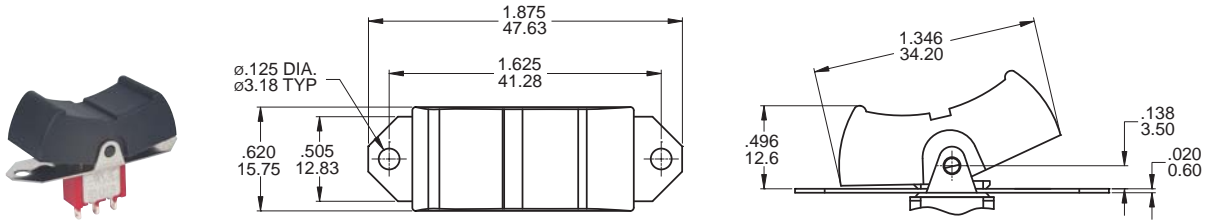


R4

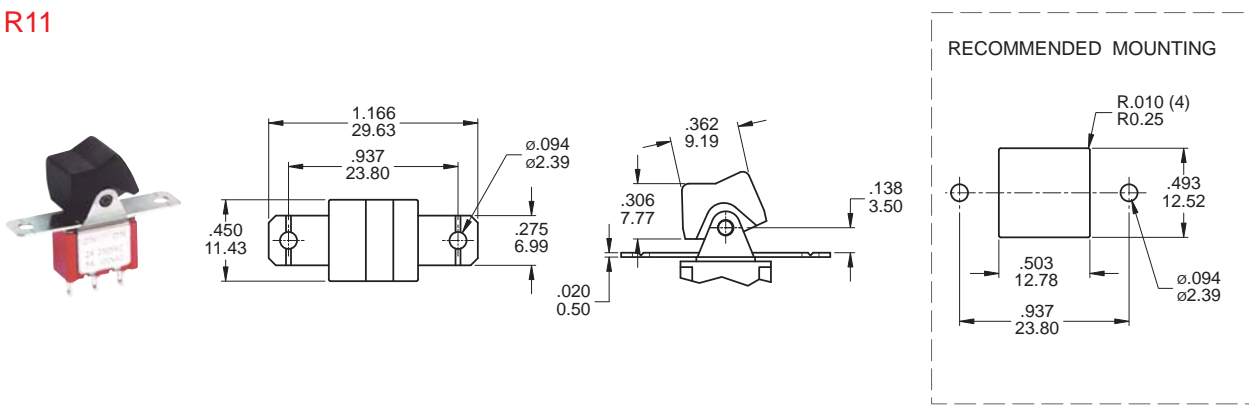


### ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

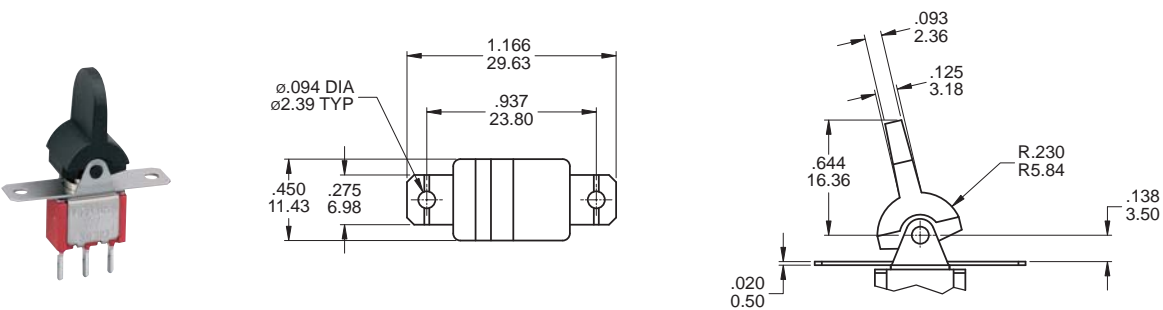
#### R5



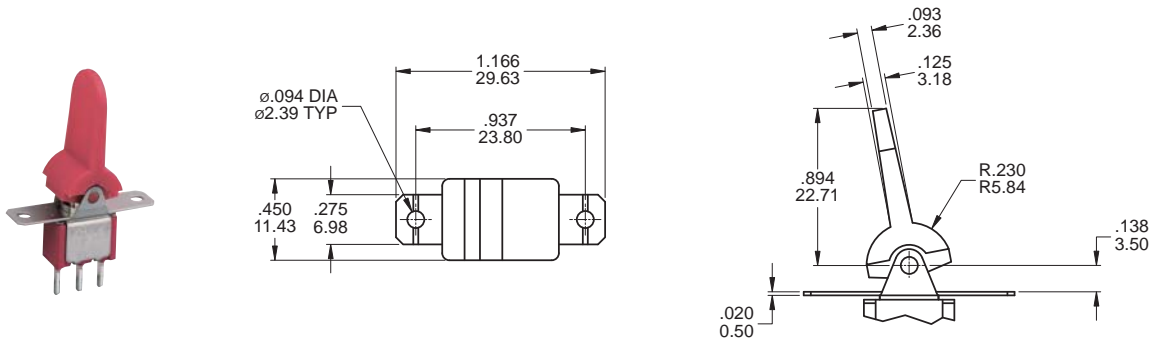
#### R11



#### R12



#### R13



3M  
Rocker Switches

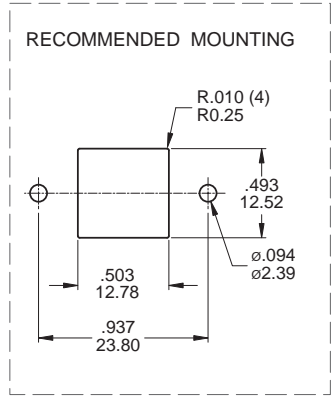
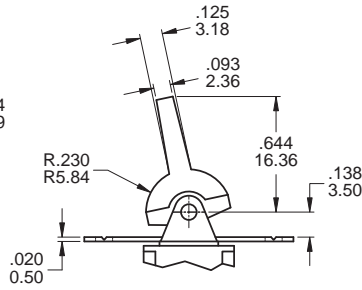
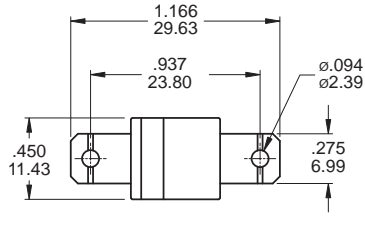
# 3M Series

Miniature Rocker & Paddle Switches

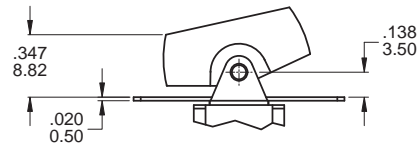
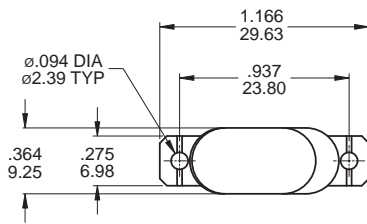


3M  
Rocker Switches

R16

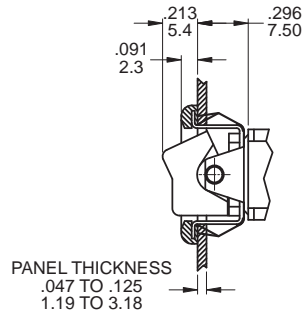
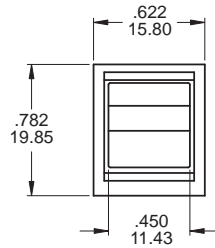


RB

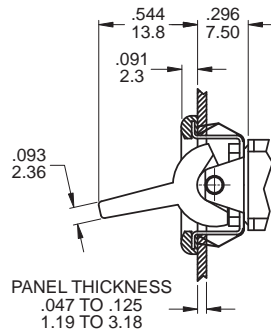
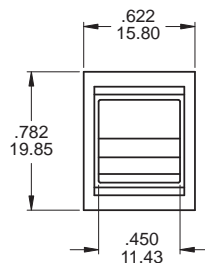


## ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

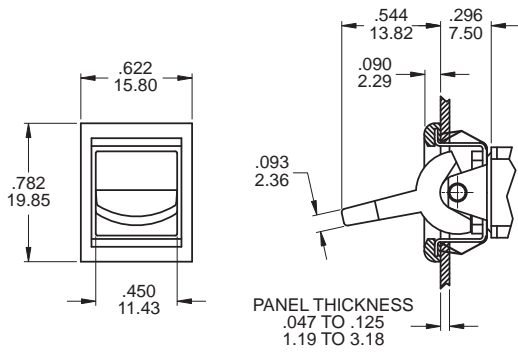
R6



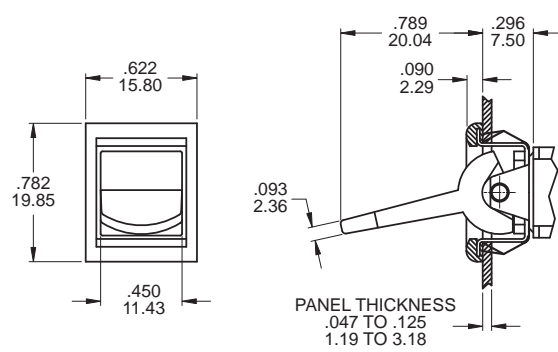
R7



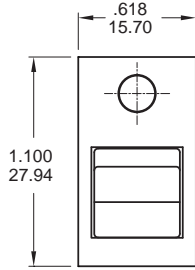
## R8



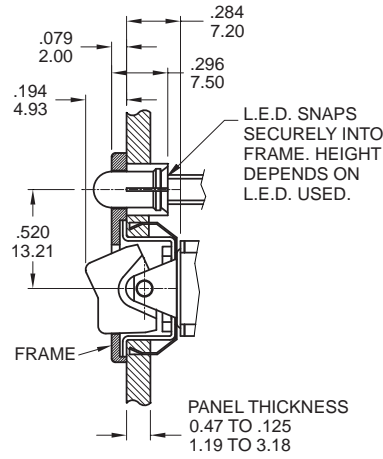
## R9



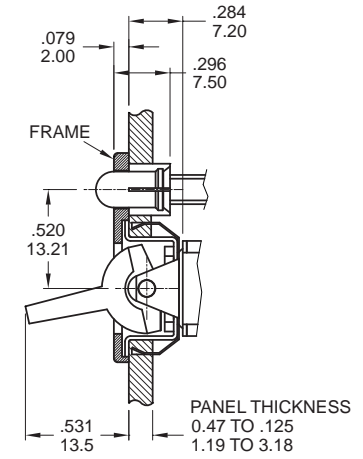
## R18



## ▲ R17



## ▲ R18



### CAP and FRAME colors

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

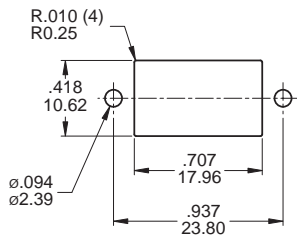
### LED colors

OPTION CODE	COLOR
R	RED (std)
O	ORANGE
G	GREEN

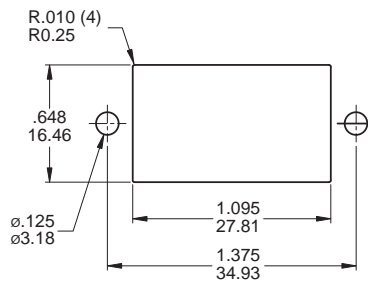
\* Besides standard color, other colors need to check stocks available.

## PANEL MOUNTING

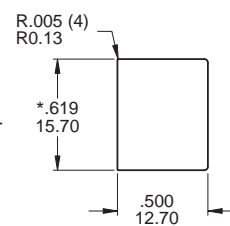
### For R1-R2



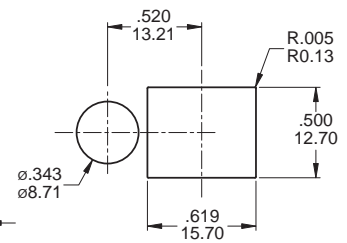
### For R3-R4



### For R6-R9



### For R17-R18



\* For R6 and R7: Increase this dim. to .620/.625(15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.  
 \* For R8 and R9: Increase this dim. to .620/.625(15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.



3M  
Rocker Switches

# 3M Series

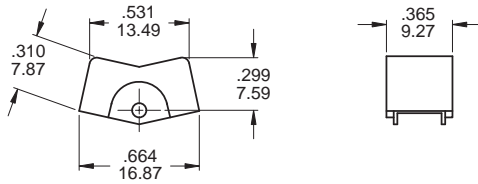
Miniature Rocker & Paddle Switches

## ACTUATOR OPTIONS FOR P.C. MOUNT ONLY

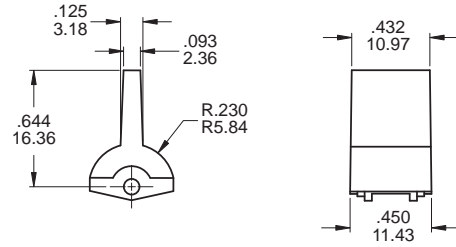


3M  
Rocker Switches

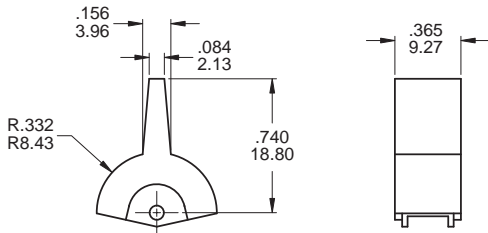
J1



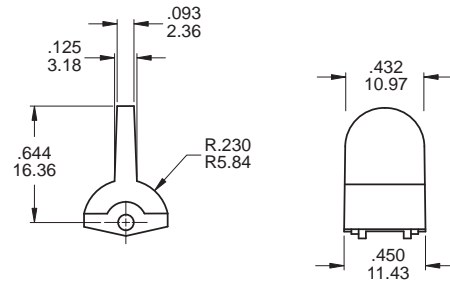
J6



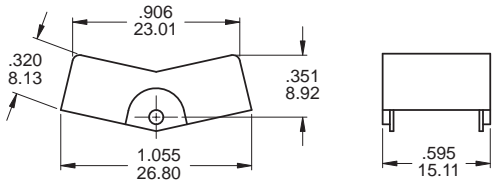
J2



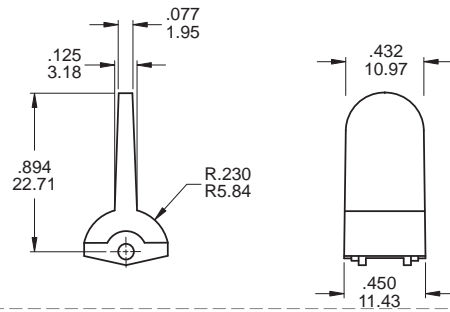
J7



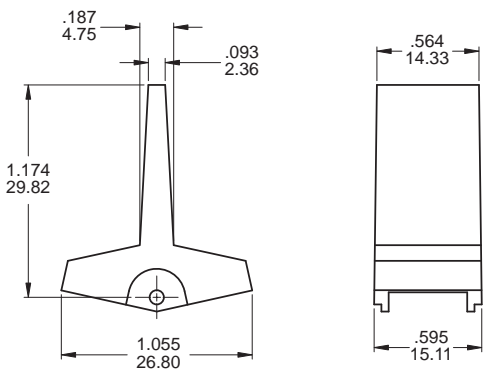
J3



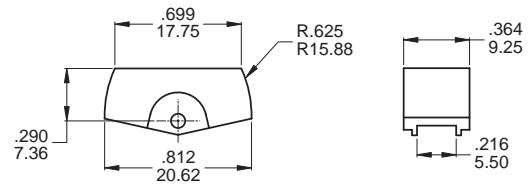
J8



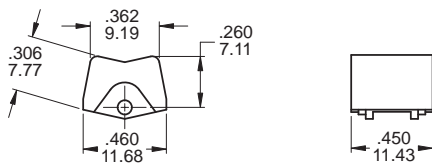
J4



JB



J5



### Actuator colors:

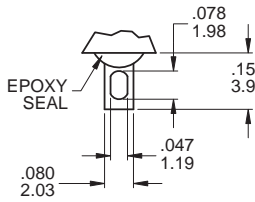
ITEM NO	COLOR
1	White
2	Black ( Std )
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Brown
9	Gray

\* Besides standard color, other colors need to check stocks available.



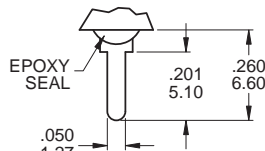
### TERMINATION OPTIONS

#### M1 Solder lug



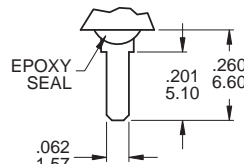
THK .030(0.76)

#### M2 PC Thru-hole



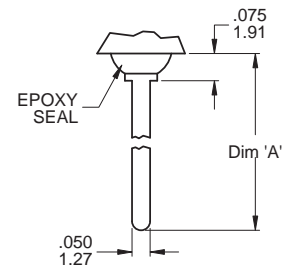
THK .030(0.76)

#### M3 Quick connect



THK .030(0.76)

#### M5 Wire Wrap



THK .030(0.76)

### OTHER TERMINATION OPTIONS

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

**M7** Right angle P.C. Mount

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

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

**VS4** Vertical bracket P.C. Mount

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

**V2N** Vertical bracket P.C. Mount with snap-in bracket

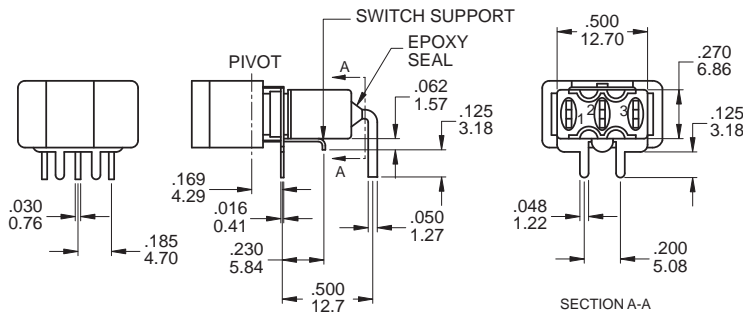
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)



3M  
Rocker Switches

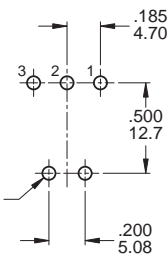
\* Shown with J1 Actuator

#### M6



SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

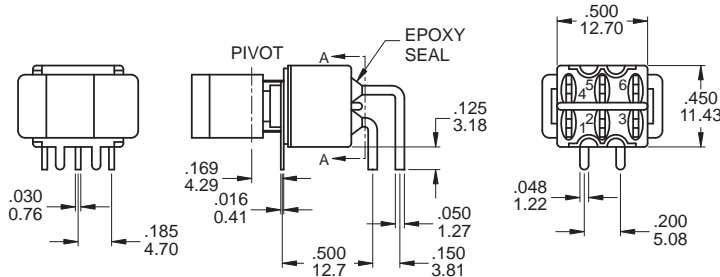
#### P.C. MOUNTING



#### SPDT

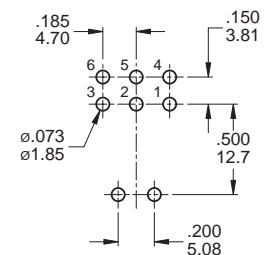
Part No. Shown : 3MS1J102M6QES

#### M7



SECTION A-A  
TERM.NOS.FOR  
REFERENCE ONLY

#### P.C. MOUNTING



#### DPDT

Part No. Shown : 3MD1J102M6QES

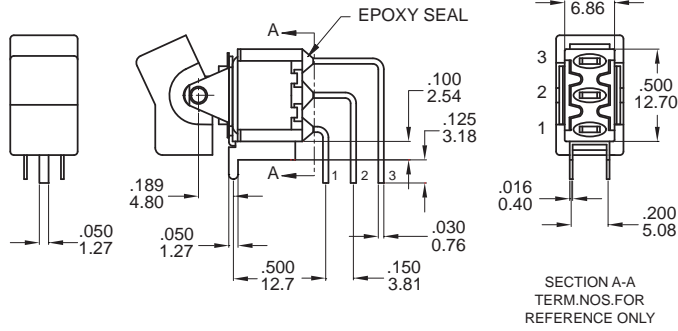
# 3M Series

Miniature Rocker & Paddle Switches



3M  
Rocker Switches

M7

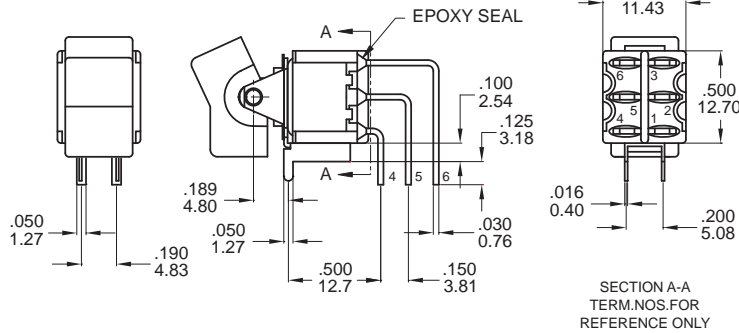


P.C. MOUNTING

SPDT

Part No. Shown : 3MS1J102M7QES

M7

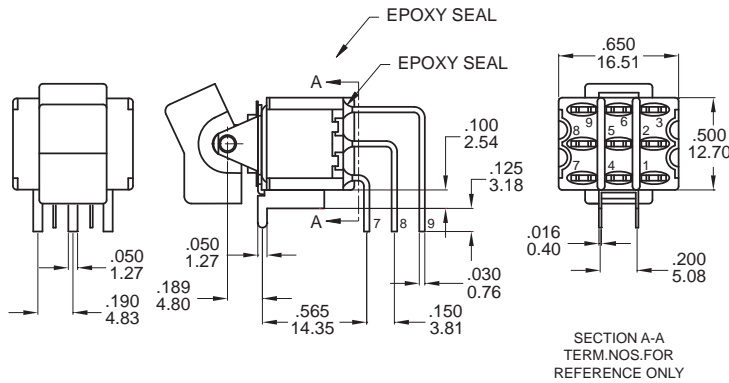


P.C. MOUNTING

DPDT

Part No. Shown : 3MD1J102M7QES

M7

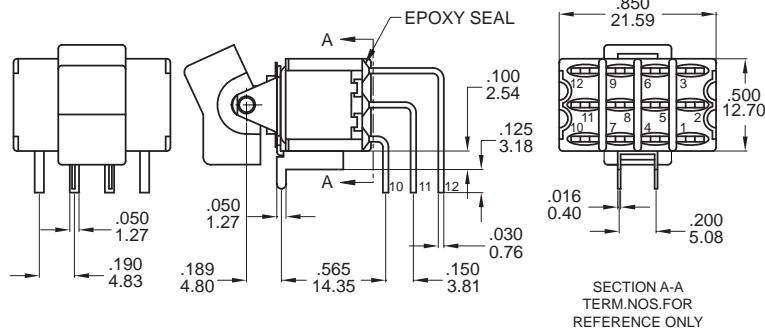


P.C. MOUNTING

3PDT

Part No. Shown : 3M31J102M7QES

M7

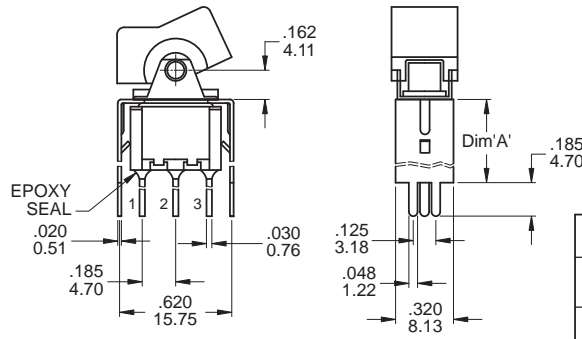


P.C. MOUNTING

4PDT

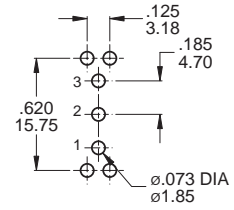
Part No. Shown : 3M41J102M7RES

### VS2 - VS3



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

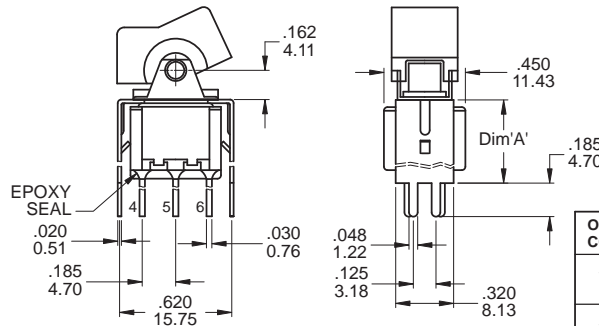
#### P.C. MOUNTING



### SPDT

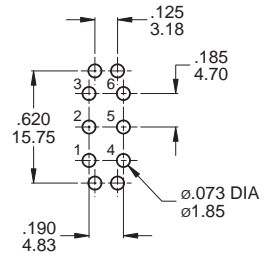
Part No. Shown : 3MS1J102VS2QES

### VS2 - VS3



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

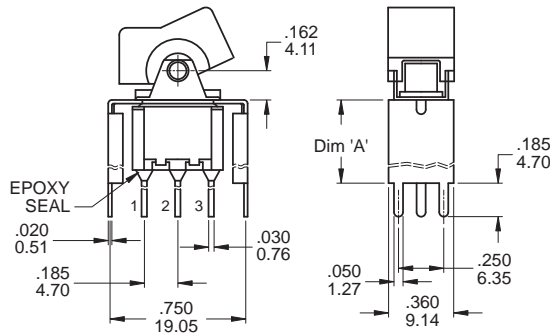
#### P.C. MOUNTING



### DPDT

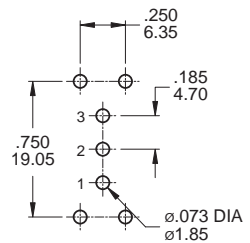
Part No. Shown : 3MD1J102VS2QES

### VS4 - VS5



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

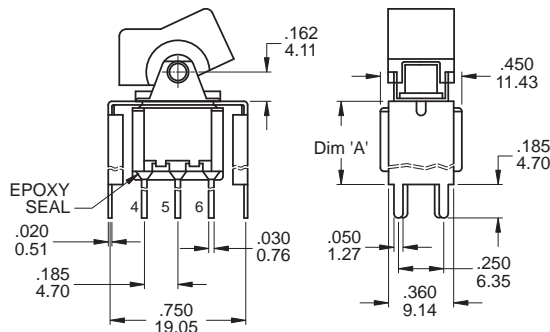
#### P.C. MOUNTING



### SPDT

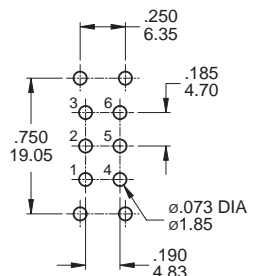
Part No. Shown : 3MS1J102VS4QES

### VS4 - VS5



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

#### P.C. MOUNTING



### DPDT

Part No. Shown : 3MD1J102VS5QES



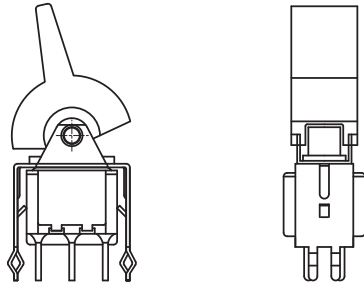
3M  
Rocker Switches

# 3M Series

Miniature Rocker & Paddle Switches

## SNAP-IN TERMINATION OPTIONS

V2N



## CONTACT MATERIAL 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 PROCESSES

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

**WAVE SOLDERING:** Recommended Soldering Temperature: 270 ± 5°C

Duration of Solder Immersion: Max 5 sec. (PCB is 1.6mm in thickness)

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[PREDD5-07F-BB0GW](#) [999-16716-002](#) [999-16716-003](#) [999-16716-004](#) [A101J1V3Q004](#) [A101J2ZQ004](#) [A101J4ZQ004](#) [A101J51CB0004](#)  
[A103J1ZQ004](#) [A201J1AQ004](#) [A201J3ZB004](#) [A201J50ZQ004](#) [A203J51ZQ0004](#) [A435S1YZQ](#) [H8500XBBBBL-A](#) [H8653VBBG2577W](#)  
[HB130CHNWWNAAC](#) [R13112ABB-602W](#) [1251.0303](#) [AE205J60V3B004](#) [1352.0107](#) [1571099-3](#) [1571987-4](#) [1571987-5](#) [1571989-7](#)  
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