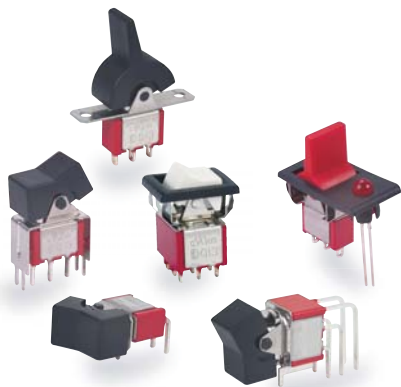




SPECIFICATIONS

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

PLATING SOLDERING

Model NO. Actuator

3MS1 SP ON-NONE-ON R1 13.49 long rocker-support
3MS2 SP ON-NONE-(ON) R2 Lever-support
3MS3 SP ON-OFF-ON R3 23.01 long rocker-support
3MS4 SP (ON)-OFF-(ON) R4 Lever-support
3MS5 SP ON-OFF-(ON) R5 33.48 long rocker-support
3MD1 DP ON-NONE-ON R11 9.19 long rocker-support
3MD2 DP ON-NONE-(ON) R12 Lever-support
3MD3 DP ON-OFF-ON R13 Lever-support
3MD4 DP (ON)-OFF-(ON) R16 Lever-support
3MD5 DP ON-OFF-(ON) RB 17.75 long rocker-support
3MD6 DP ON-ON-ON P.C. Mount only
3MD7 DP (ON)-ON-(ON) J1 13.49 long rocker
3MD8 DP ON-ON-(ON) J2 Lever
3M31 3P ON-NONE-ON J3 23.01 long rocker
3M32 3P ON-NONE-(ON) J4 Lever
3M33 3P ON-OFF-ON J5 9.19 long rocker
3M34 3P (ON)-OFF-(ON) J6 Lever
3M35 3P ON-OFF-(ON) J7 Lever
3M41 4P ON-NONE-ON J8 Lever
3M42 4P ON-NONE-(ON) JB 17.75 long rocker
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 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	⊕ ⊖
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

FRAME

Frame

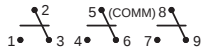
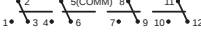
R6 Rocker
R7 Lever
R8 Lever
R9 Lever
R17 Rocker with frame for LED,snap-in
R18 Lever with frame for LED,snap-in

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.

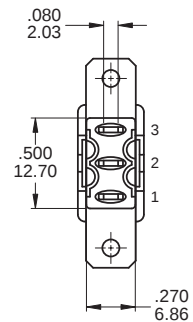
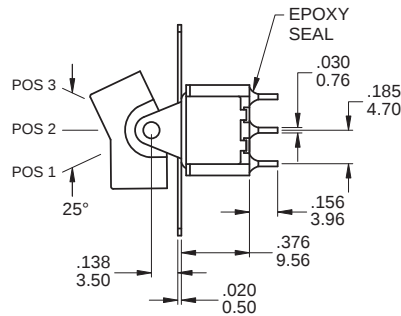
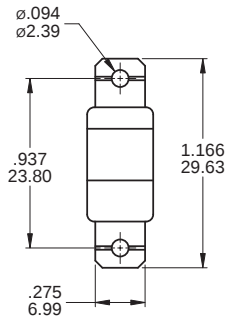
SWITCH FUNCTION

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	Q1311	3MS1	ON	NONE	ON		N/A	
	Q1312	3MS2	ON	NONE	(ON)		OPEN	
	Q1313	3MS3	ON	OFF	ON			
	Q1314	3MS4	(ON)	OFF	(ON)			
	Q1315	3MS5	ON	OFF	(ON)			
DP	Q1321	3MD1	ON	NONE	ON		N/A	2-1,5-4
	Q1322	3MD2	ON	NONE	(ON)		OPEN	
	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	2-1,5-4,8-7
	Q1332	3M32	ON	NONE	(ON)		OPEN	
	Q1333	3M33	ON	OFF	ON			
	Q1334	3M34	(ON)	OFF	(ON)			
	Q1335	3M35	ON	OFF	(ON)			
4P	Q1341	3M41	ON	NONE	ON		N/A	2-1,5-4,8-7,11-10
	Q1342	3M42	ON	NONE	(ON)		OPEN	
	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

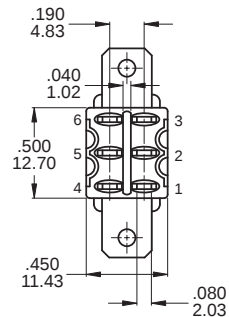
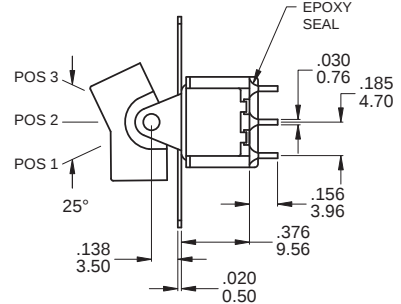
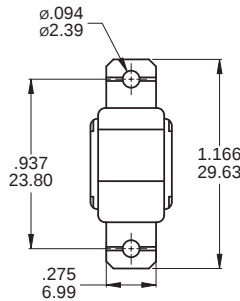
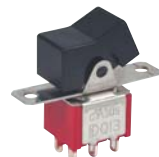
▲ Please check the availability in advance before order

POLE OPTIONS



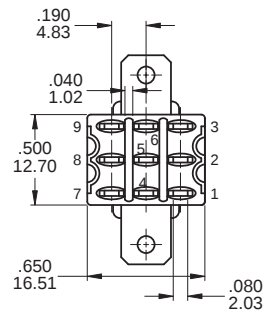
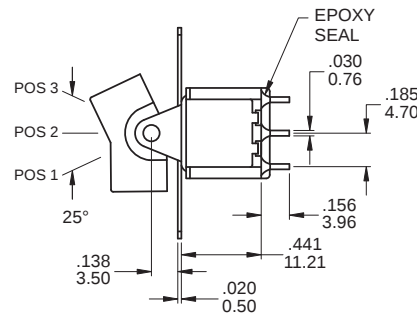
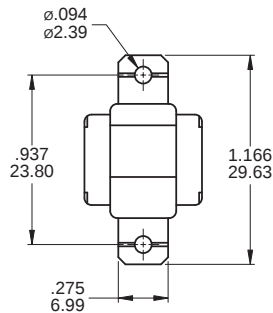
SPDT

Part No. Shown : 3MS1R102M1QES



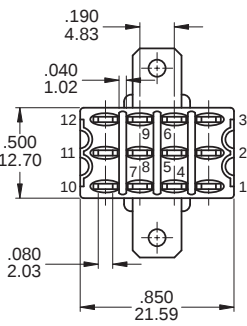
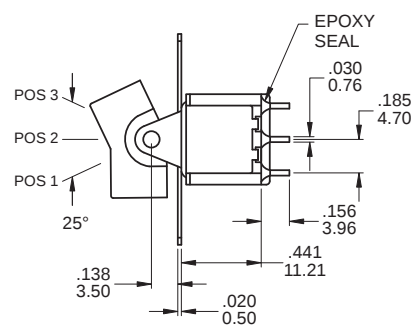
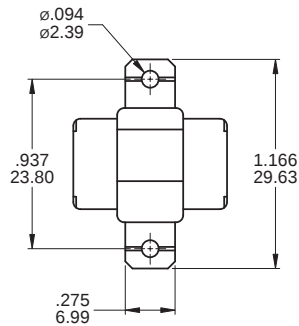
DPDT

Part No. Shown : 3MD1R102M1QES



3PDT

Part No. Shown : 3M31R102M1QES



4PDT

Part No. Shown : 3M41R102M1QES



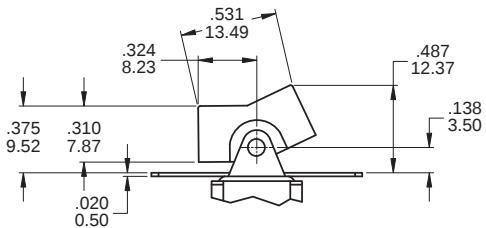
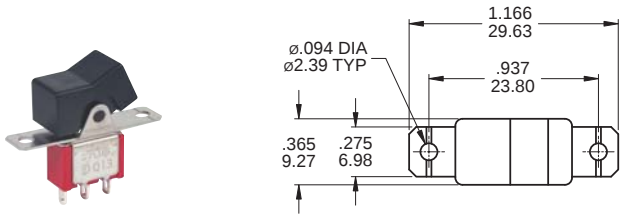
3M
Rocker Switches

3M Series

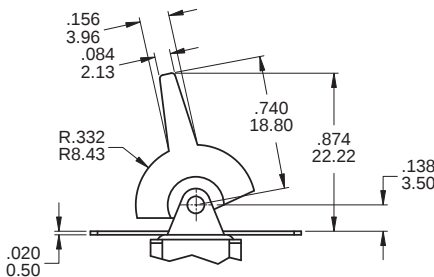
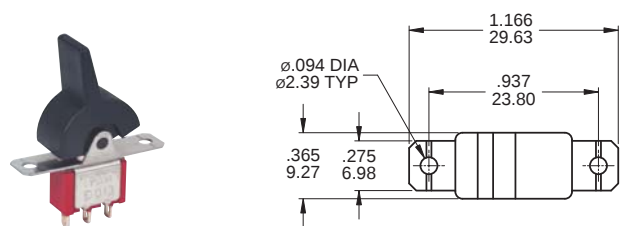
Miniature Rocker & Paddle Switches

ACTUATOR OPTIONS FOR PANEL MOUNT ONLY

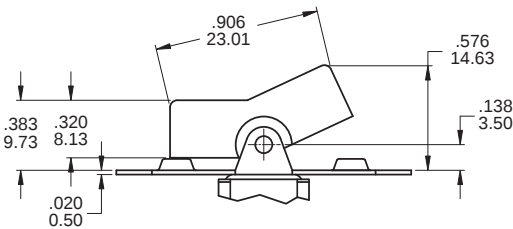
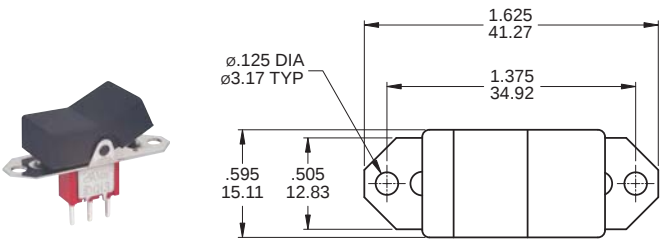
R1



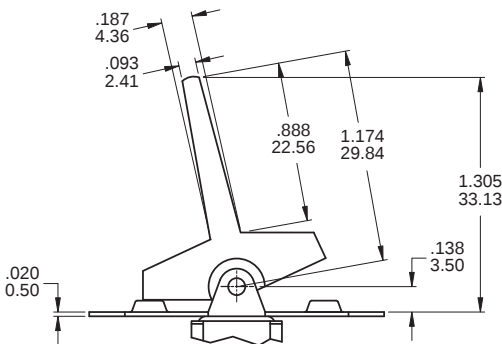
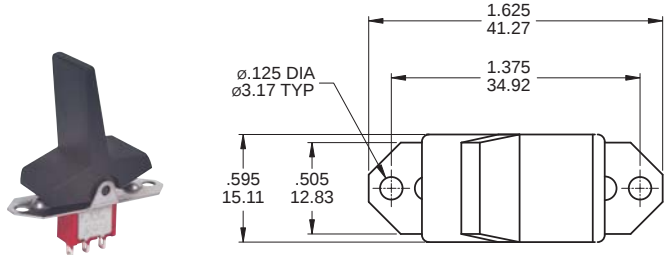
R2



R3



R4

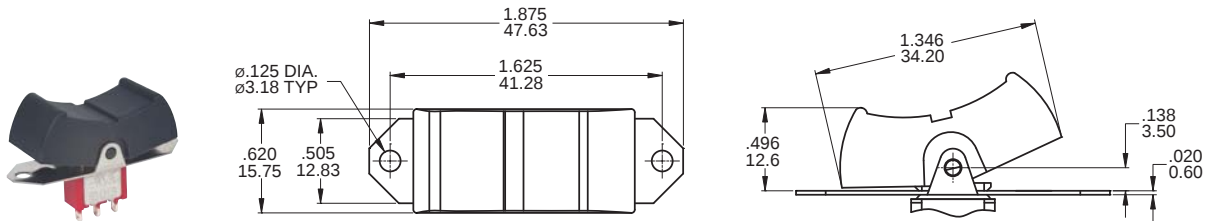


ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

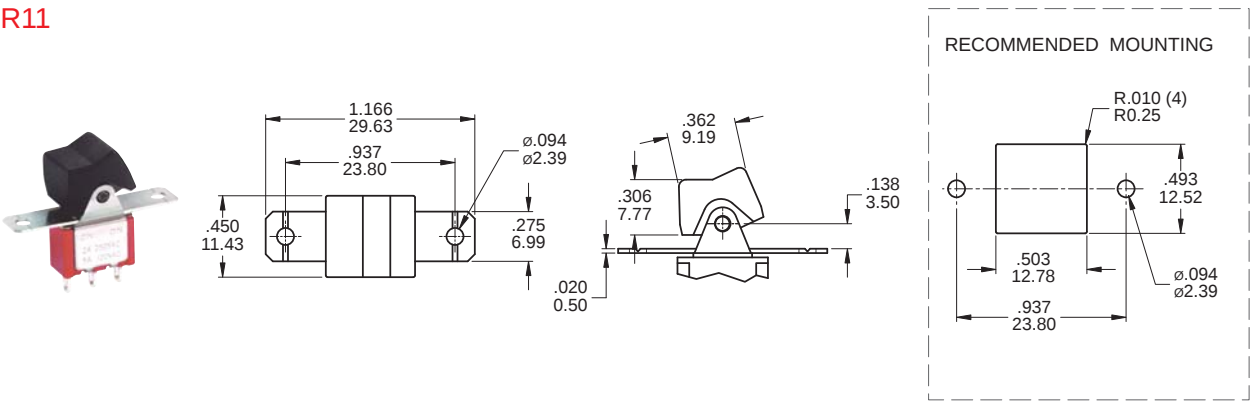


3M
Rocker Switches

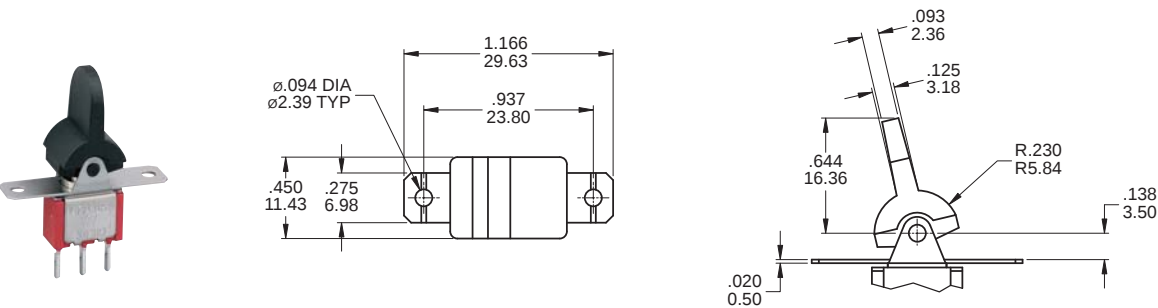
R5



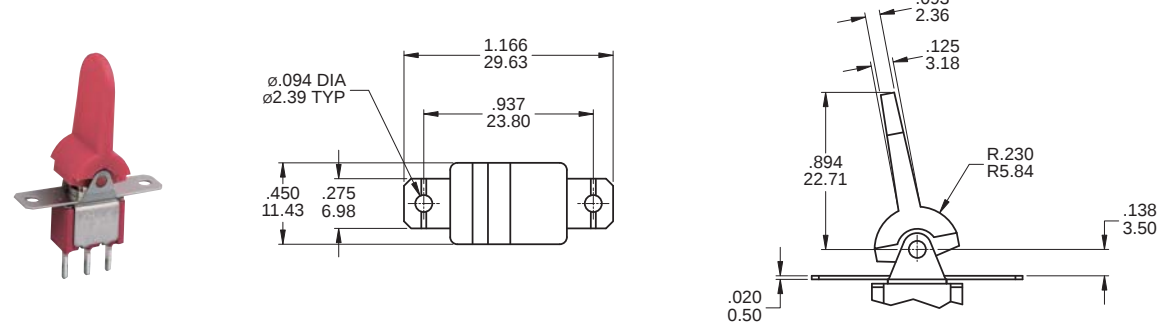
R11



R12



R13



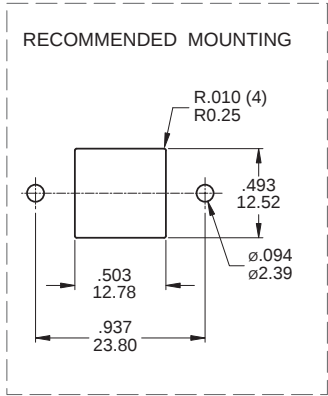
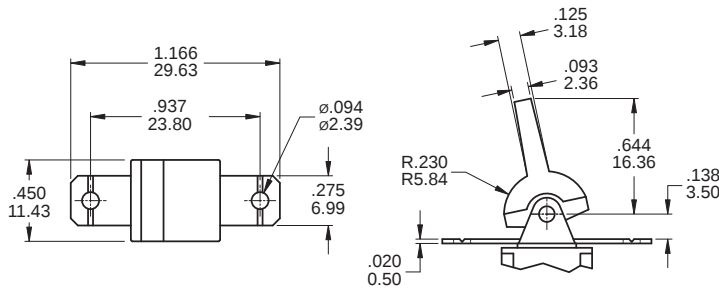
3M Series

Miniature Rocker & Paddle Switches

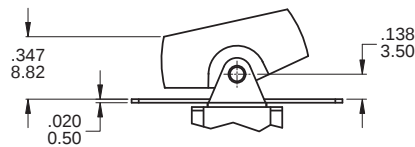
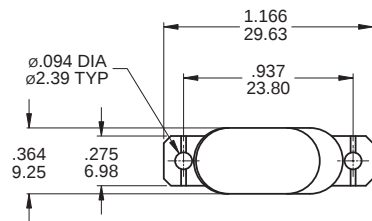


3M
Rocker Switches

R16

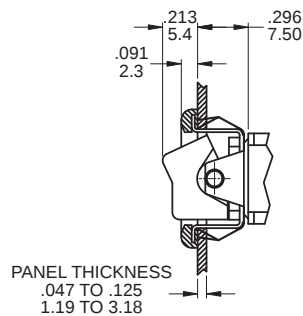
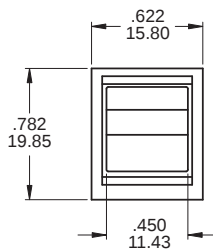


RB

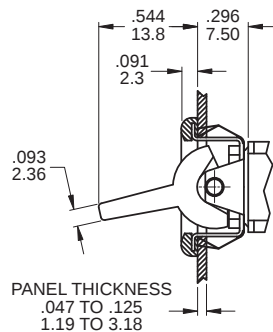
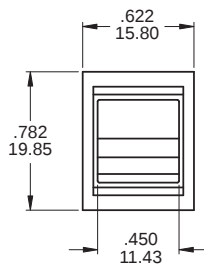


ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

R6



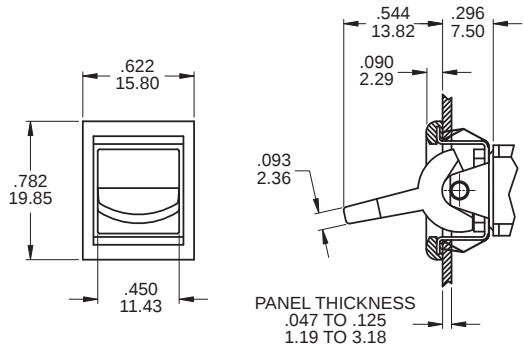
R7



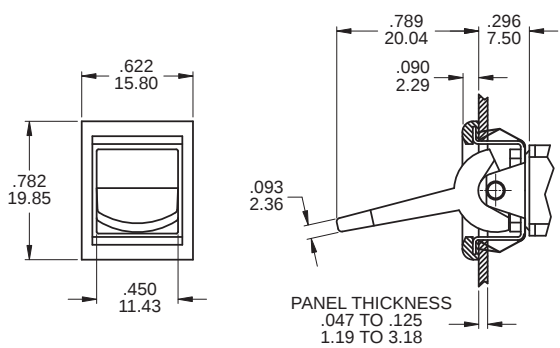


3M
Rocker Switches

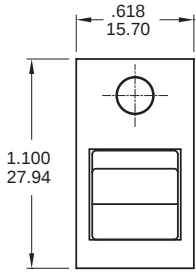
R8



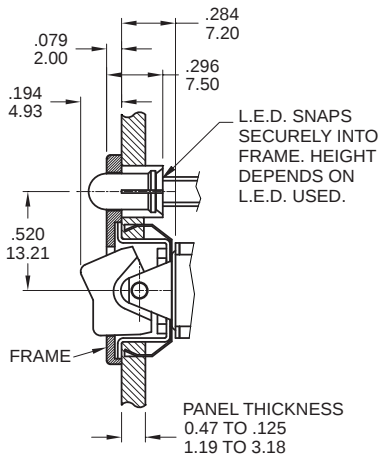
R9



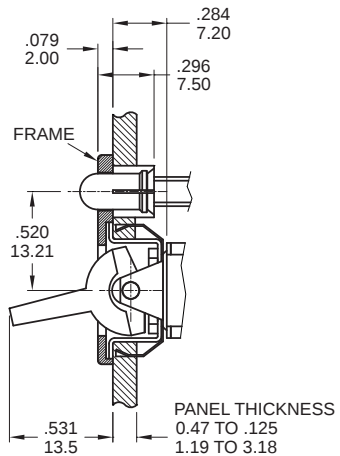
R18



▲ R17



▲ R18



CAP and FRAME colors

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

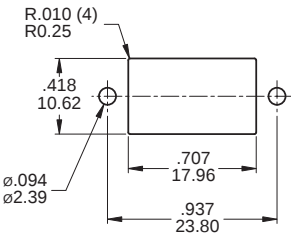
LED colors

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

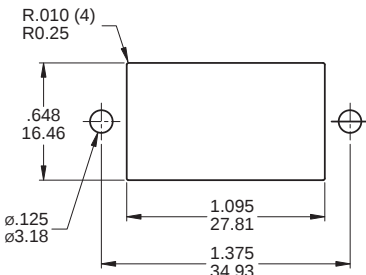
* Besides standard color, other colors need to check stocks available.

PANEL MOUNTING

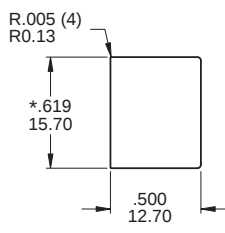
For R1-R2



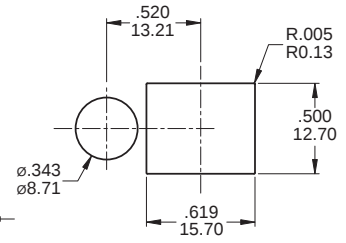
For R3-R4



For R6-R9



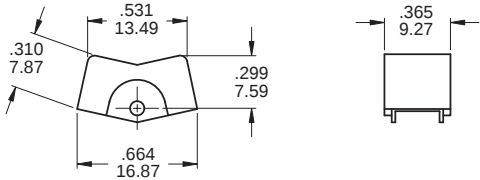
For R17-R18



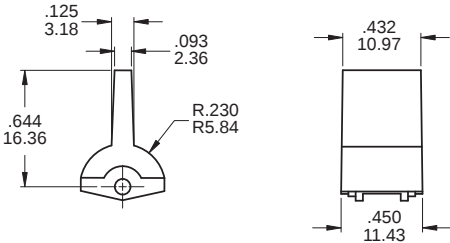
* For R6 and R7: Increase this dim. to .620/.625(15,75/15,88) for .060/.125 (1,52/3,18) thk. panels.
* For R8 and R9: Increase this dim. to .620/.625(15,75/15,88) for .091/.125 (2,31/3,18) thk. panels.

ACTUATOR OPTIONS FOR P.C. MOUNT ONLY

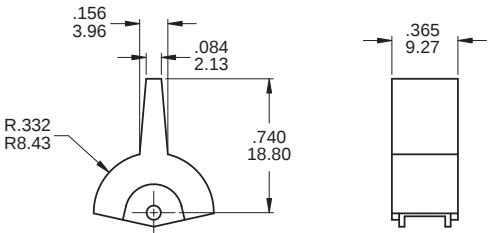
J1



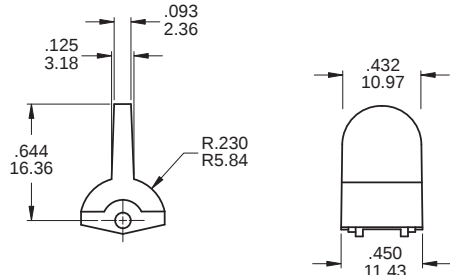
J6



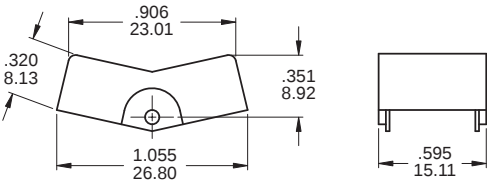
J2



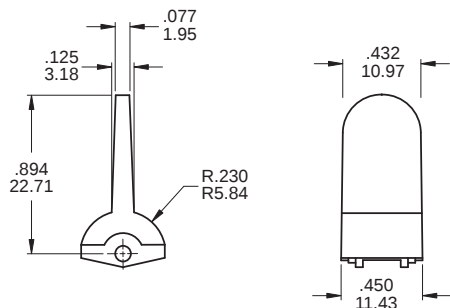
J7



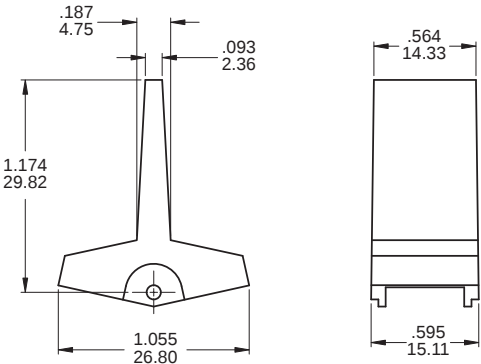
J3



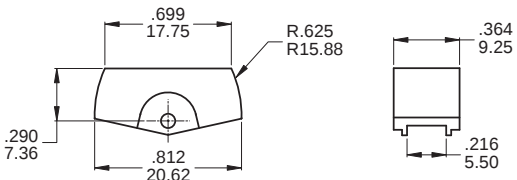
J8



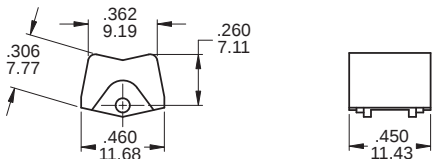
J4



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

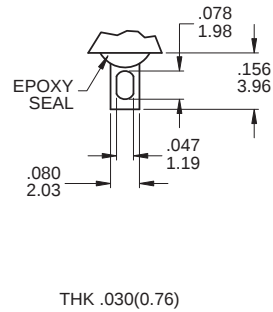
* Besides standard color, other colors need to check stocks available.



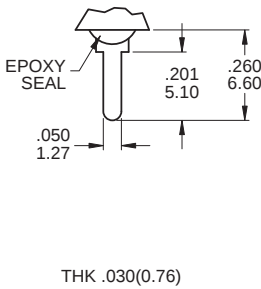
3M
Rocker Switches

TERMINATION OPTIONS

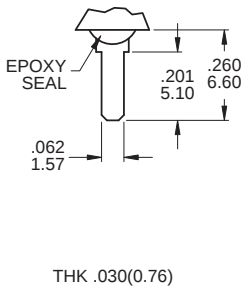
M1 Solder lug



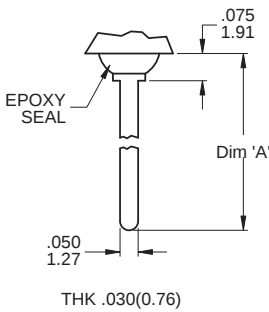
M2 PC Thru-hole



M3 Quick connect



M5 Wire Wrap



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

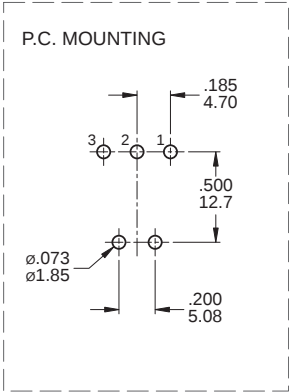
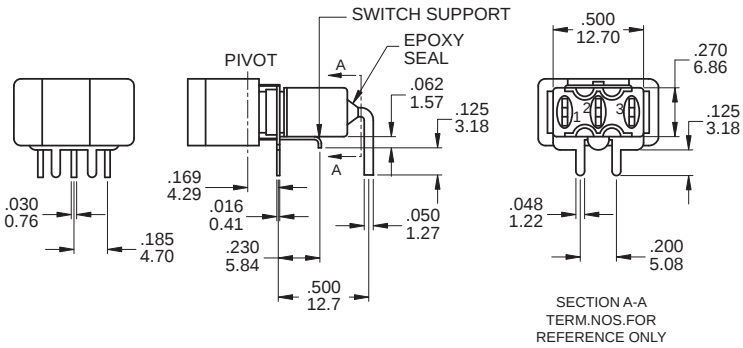
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

* Shown with J1 Actuator

M6

SPDT

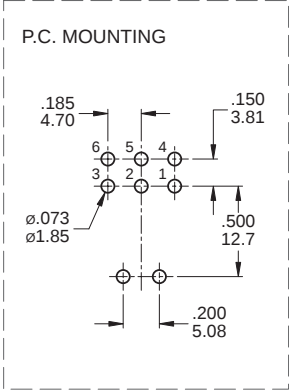
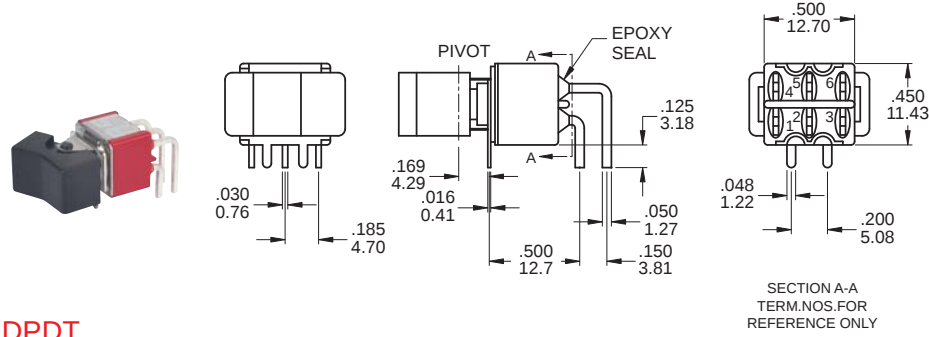
Part No. Shown : 3MS1J102M6QES



M7

DPDT

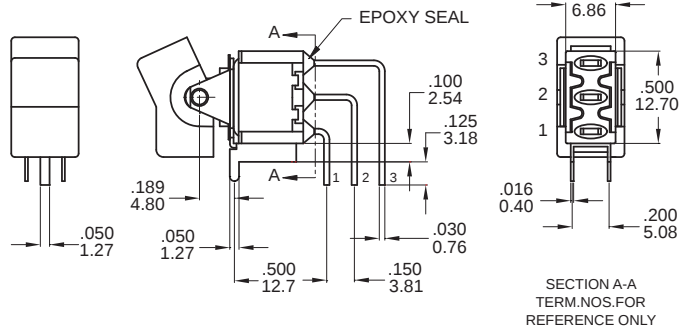
Part No. Shown : 3MD1J102M6QES



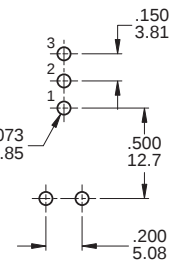
3M Series

Miniature Rocker & Paddle Switches

M7



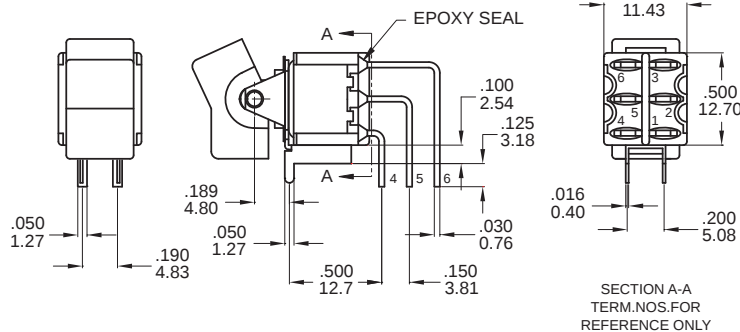
P.C. MOUNTING



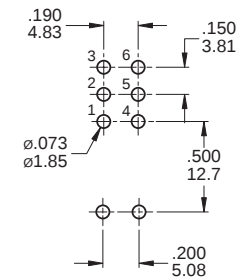
SPDT

Part No. Shown : 3MS1J102M7QES

M7



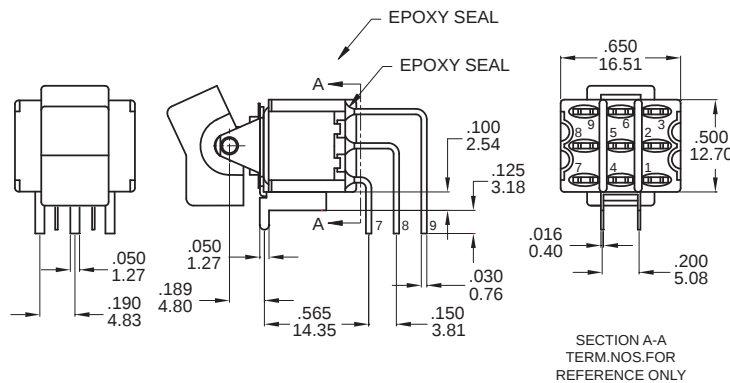
P.C. MOUNTING



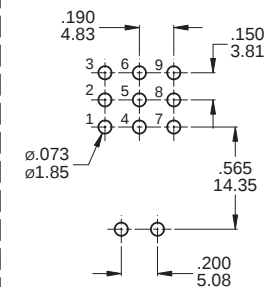
DPDT

Part No. Shown : 3MD1J102M7QES

M7



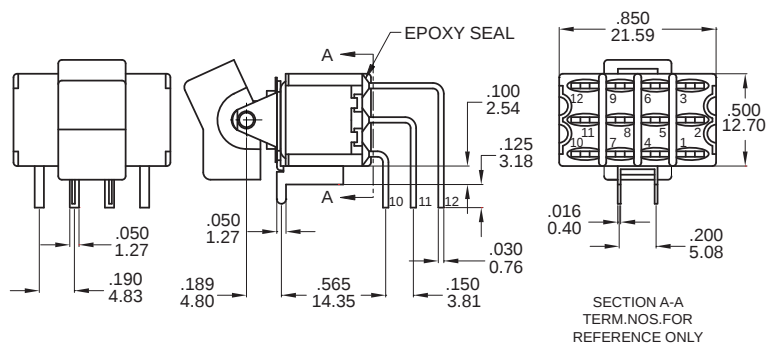
P.C. MOUNTING



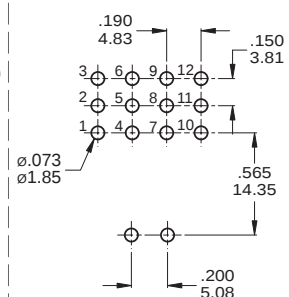
3PDT

Part No. Shown : 3M31J102M7QES

M7



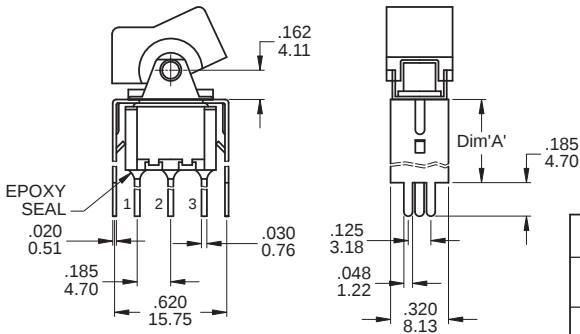
P.C. MOUNTING



4PDT

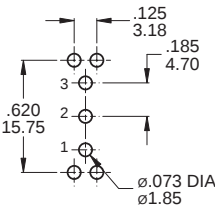
Part No. Shown : 3M41J102M7RES

VS2 - VS3



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

P.C. MOUNTING

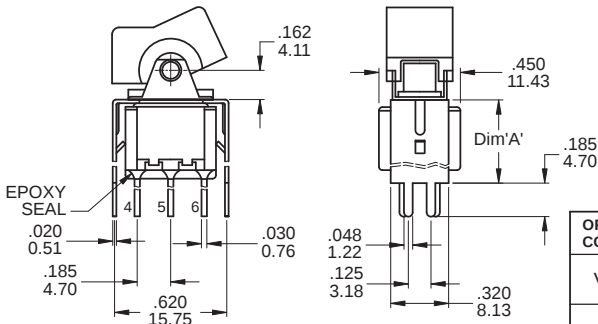


3M
Rocker Switches

SPDT

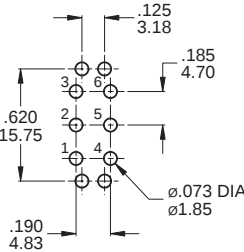
Part No. Shown : 3MS1J102VS2QES

VS2 - VS3



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

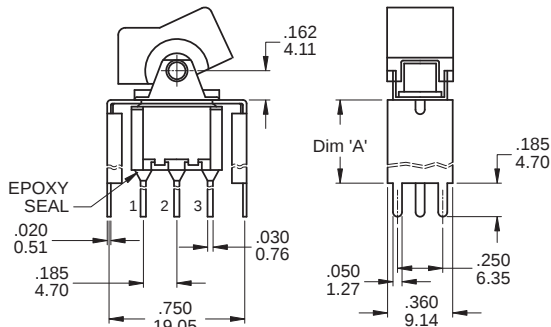
P.C. MOUNTING



DPDT

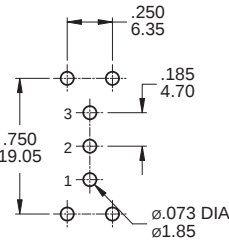
Part No. Shown : 3MD1J102VS2QES

VS4 - VS5



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

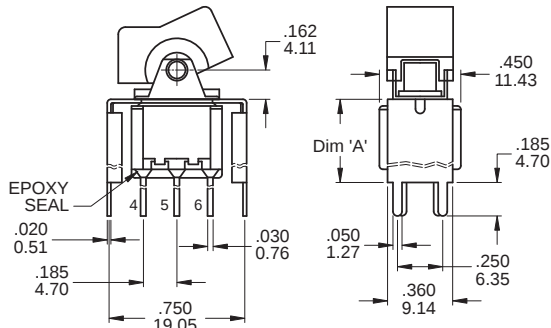
P.C. MOUNTING



SPDT

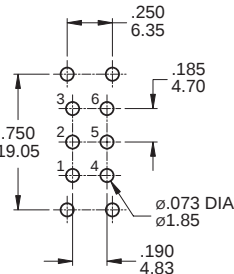
Part No. Shown : 3MS1J102VS4QES

VS4 - VS5



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

P.C. MOUNTING



DPDT

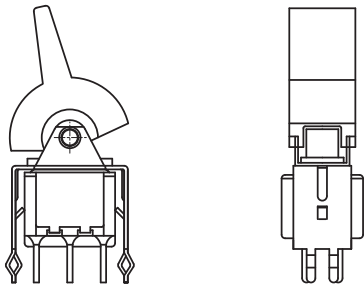
Part No. Shown : 3MD1J102VS5QES

3M 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)



3M
Rocker Switches