



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: -30°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 PLATING	SEAL	RoHS SOLDERING																																						
<p>Model NO.</p> <p>3MS1 SP On-None-On</p> <p>3MS2 SP On-None-Mom.</p> <p>3MS3 SP On-Off-On</p> <p>3MS4 SP Mom.-Off-Mom.</p> <p>3MS5 SP On-Off-Mom.</p> <p>3MD1 DP On-None-On</p> <p>3MD2 DP On-None-Mom.</p> <p>3MD3 DP On-Off -On</p> <p>3MD4 DP Mom.-Off-Mom.</p> <p>3MD5 DP On-Off-Mom.</p> <p>3MD6 DP On-On-On</p> <p>3MD7 DP Mom.-On-Mom.</p> <p>3MD8 DP On-On-Mom.</p> <p>3M31 3P On-None-On</p> <p>3M32 3P On-None-Mom.</p> <p>3M33 3P On-Off-On</p> <p>3M34 3P Mom.-Off-Mom.</p> <p>3M35 3P On-Off-Mom.</p> <p>3M41 4P On-None-On</p> <p>3M42 4P On-None-Mom.</p> <p>3M43 4P On-Off-On</p> <p>3M44 4P Mom.-Off-Mom.</p> <p>3M45 4P On-Off-Mom.</p> <p>3M46 4P On-On-On</p> <p>3M47 4P Mom.-On-Mom.</p> <p>3M48 4P On-On-Mom.</p>	<p>Actuator</p> <p>R1 13.49 long rocker-support</p> <p>R2 Lever-support</p> <p>R3 23.01 long rocker-support</p> <p>R4 Lever-support</p> <p>R5 33.48 long rocker-support</p> <p>R11 9.19 long rocker-support</p> <p>R12 Lever-support</p> <p>R13 Lever-support</p> <p>R16 Lever-support</p> <p>RB 17.75 long rocker-support</p> <p>P.C. Mount only</p> <p>J1 13.49 long rocker</p> <p>J2 Lever</p> <p>J3 23.01 long rocker</p> <p>J4 Lever</p> <p>J5 9.19 long rocker</p> <p>J6 Lever</p> <p>J7 Lever</p> <p>J8 Lever</p> <p>JB 17.75 long rocker</p>	<p>Actuator Color</p> <table border="1"> <thead> <tr> <th>ITEM NO</th> <th>COLOR</th> </tr> </thead> <tbody> <tr><td>0</td><td>Without</td></tr> <tr><td>1</td><td>White</td></tr> <tr><td>2</td><td>Black (Std)</td></tr> <tr><td>3</td><td>Red</td></tr> <tr><td>4</td><td>Orange</td></tr> <tr><td>5</td><td>Yellow</td></tr> <tr><td>6</td><td>Green</td></tr> <tr><td>7</td><td>Blue</td></tr> <tr><td>8</td><td>Brown</td></tr> <tr><td>9</td><td>Gray</td></tr> </tbody> </table> <p>* Besides standard color, other colors need to check stocks available.</p>	ITEM NO	COLOR	0	Without	1	White	2	Black (Std)	3	Red	4	Orange	5	Yellow	6	Green	7	Blue	8	Brown	9	Gray	<p>Actuator marking</p> <table border="1"> <tbody> <tr><td>1</td><td>○ -</td></tr> <tr><td>2</td><td>○ </td></tr> <tr><td>5</td><td>← →</td></tr> <tr><td>6</td><td> ○ </td></tr> <tr><td>7</td><td>— •</td></tr> <tr><td>8</td><td>⊕ </td></tr> <tr><td>L</td><td>⊕ </td></tr> <tr><td>J</td><td>⊕ -</td></tr> </tbody> </table>	1	○ -	2	○	5	← →	6	○	7	— •	8	⊕	L	⊕	J	⊕ -	<p>Terminations</p> <p>M1 Solder Lug</p> <p>M2 PC thru-hole</p> <p>M3 Quick Connect</p> <p>M51 18.70 high, wire wrap</p> <p>M52 24.20 high, wire wrap</p> <p>M53 10.55 high, wire wrap</p> <p>M54 26.97 high, wire wrap</p> <p>M6 Right angle, PC thru-hole</p> <p>M7 Vertical right angle, PC thru-hole</p> <p>VS2 11.68 high, V-bracket</p> <p>V2N 11.68 high, snap-in V-bracket</p> <p>VS3 16.00 high, V-bracket</p> <p>VS4 11.68 high, V-bracket</p> <p>VS5 16.00 high, V-bracket</p>	<p>Terminal plating</p> <p>Q Silver</p> <p>R Gold</p> <p>C Gold over silver</p>	<p>Seal</p> <p>E EPOXY (std)</p> <p>N NO EPOXY</p>	<p>RoHS soldering</p> <p>S RoHS & Lead Free</p>
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	<p>FRAME</p> <p>R6 Rocker</p> <p>R6K Rocker with snap-in</p> <p>R7 Lever</p> <p>R7K Lever with snap-in</p> <p>R8 Lever</p> <p>R9 Lever</p> <p>R17 Rocker with frame for LED, snap-in</p> <p>R18 Lever with frame for LED, snap-in</p>	<p>FRAME COLOR</p> <p>ACTUATOR COLOR</p> <table border="1"> <thead> <tr> <th>ITEM NO</th> <th>COLOR</th> </tr> </thead> <tbody> <tr><td>0</td><td>Without</td></tr> <tr><td>1</td><td>White</td></tr> <tr><td>2</td><td>Black (Std)</td></tr> <tr><td>3</td><td>Red</td></tr> <tr><td>4</td><td>Orange</td></tr> <tr><td>5</td><td>Yellow</td></tr> <tr><td>6</td><td>Green</td></tr> <tr><td>7</td><td>Blue</td></tr> <tr><td>8</td><td>Brown</td></tr> <tr><td>9</td><td>Gray</td></tr> </tbody> </table> <p>* Besides standard color, other colors need to check stocks available.</p>	ITEM NO	COLOR	0	Without	1	White	2	Black (Std)	3	Red	4	Orange	5	Yellow	6	Green	7	Blue	8	Brown	9	Gray																					
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3M Series

Miniature Rocker & Paddle Switches

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	2-1
	Q1312	3MS2	ON	NONE	MOM			
	Q1313	3MS3	ON	OFF	ON			
	Q1314	3MS4	MOM	OFF	MOM			
	Q1315	3MS5	ON	OFF	MOM			
DP	Q1321	3MD1	ON	NONE	ON		N/A	2-1,5-4
	Q1322	3MD2	ON	NONE	MOM			
	Q1323	3MD3	ON	OFF	ON			
	Q1324	3MD4	MOM	OFF	MOM			
	Q1325	3MD5	ON	OFF	MOM			
	Q1326	3MD6	ON	ON	ON			
	▲ Q1327	3MD7	MOM	ON	MOM			
	▲ Q1328	3MD8	ON	ON	MOM			
3P	Q1331	3M31	ON	NONE	ON		N/A	2-1,5-4,8-7
	Q1332	3M32	ON	NONE	MOM			
	Q1333	3M33	ON	OFF	ON			
	Q1334	3M34	MOM	OFF	MOM			
	Q1335	3M35	ON	OFF	MOM			
4P	Q1341	3M41	ON	NONE	ON		N/A	2-1,5-4,8-7,11-10
	Q1342	3M42	ON	NONE	MOM			
	Q1343	3M43	ON	OFF	ON			
	Q1344	3M44	MOM	OFF	MOM			
	Q1345	3M45	ON	OFF	MOM			
	Q1346	3M46	ON	ON	ON			
	▲ Q1347	3M47	MOM	ON	MOM			
	▲ Q1348	3M48	ON	ON	MOM			

MOM=MOMENTARY

▲ Please check the availability in advance before order

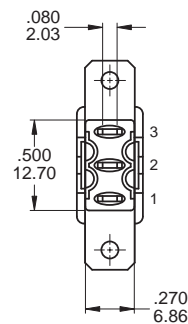
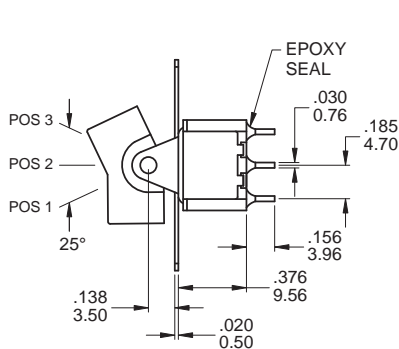
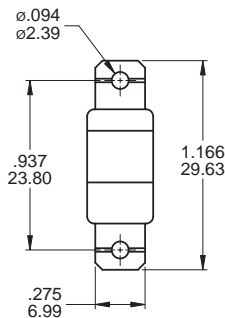


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POLE OPTIONS

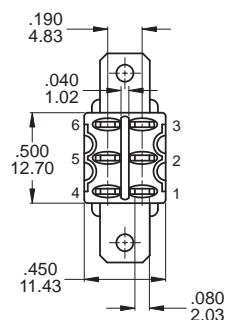
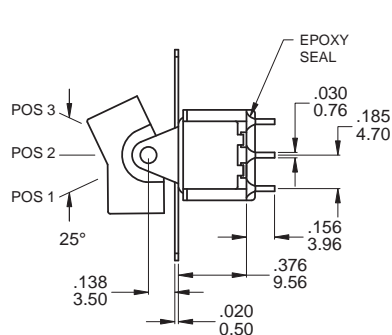
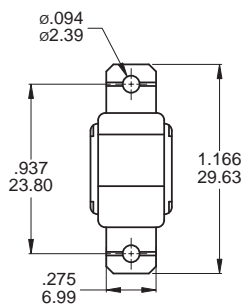
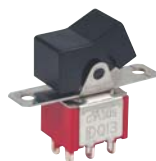


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Rocker Switches



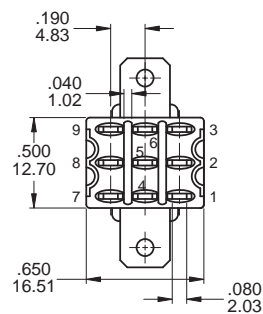
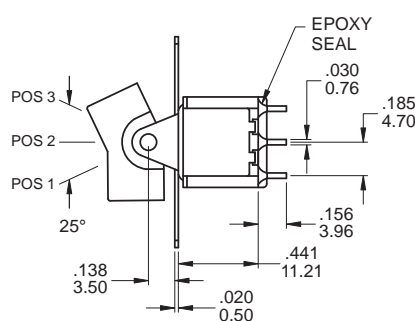
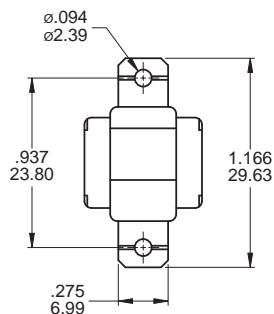
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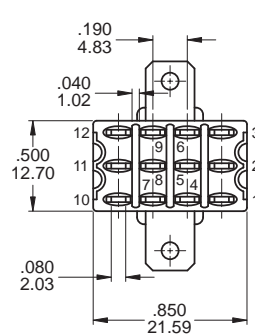
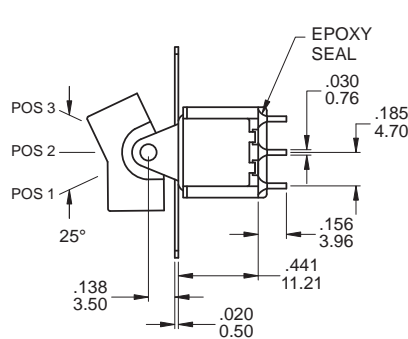
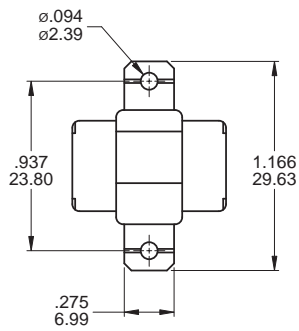
DPDT

Part No. Shown : 3MD1R102M1QES



3PDT

Part No. Shown : 3M31R102M1QES



4PDT

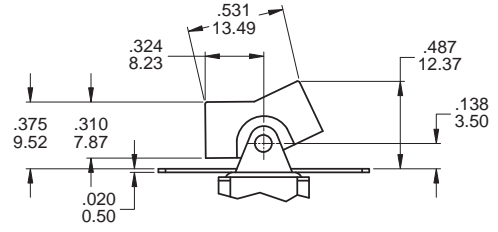
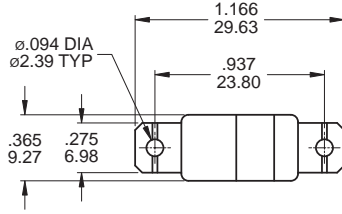
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3M Series

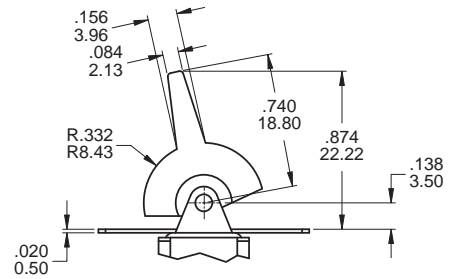
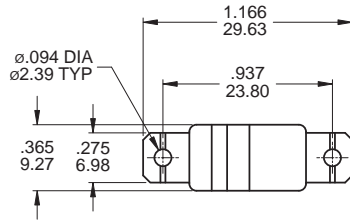
Miniature Rocker & Paddle Switches

ACTUATOR OPTIONS FOR PANEL MOUNT ONLY

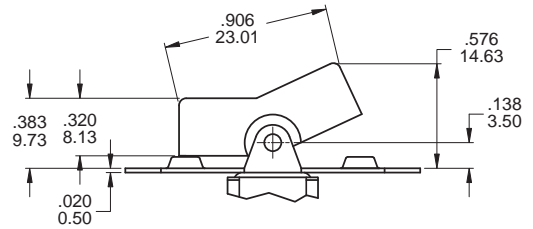
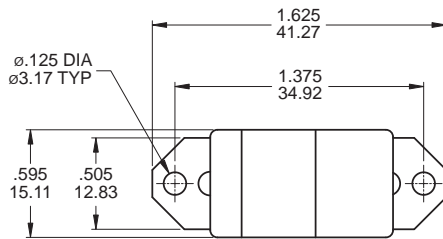
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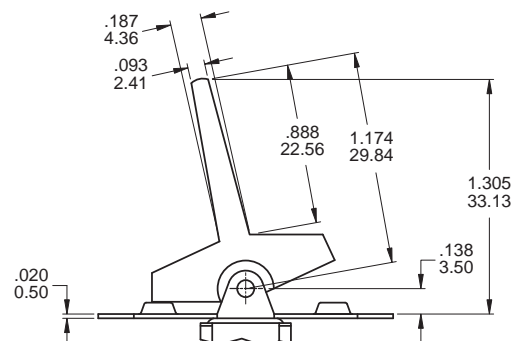
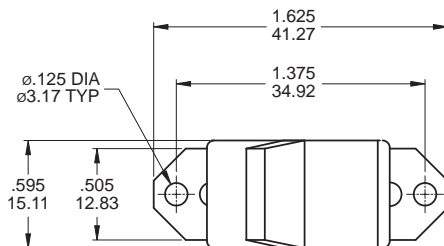
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R3



R4



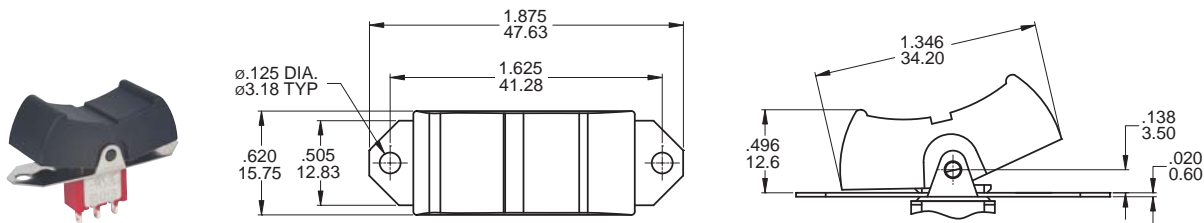
3M
Rocker Switches

ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

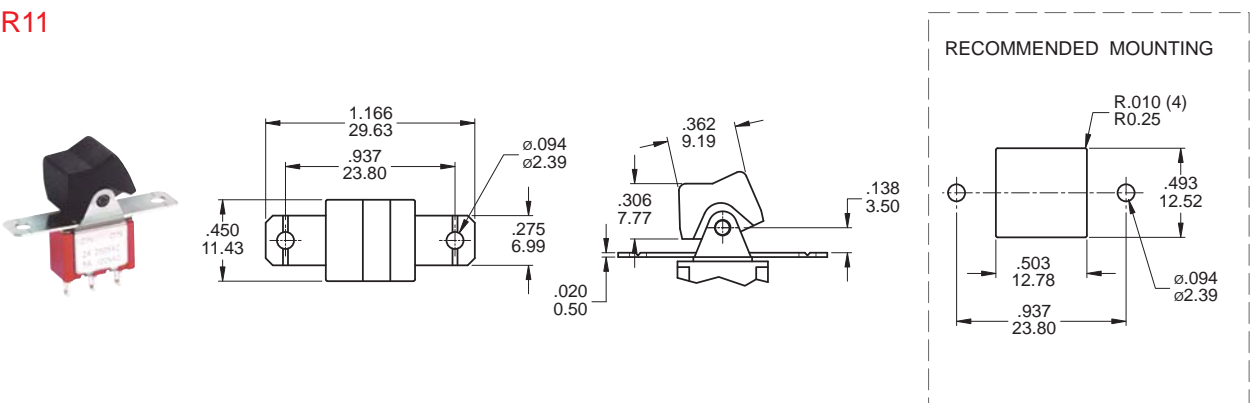


3M
Rocker Switches

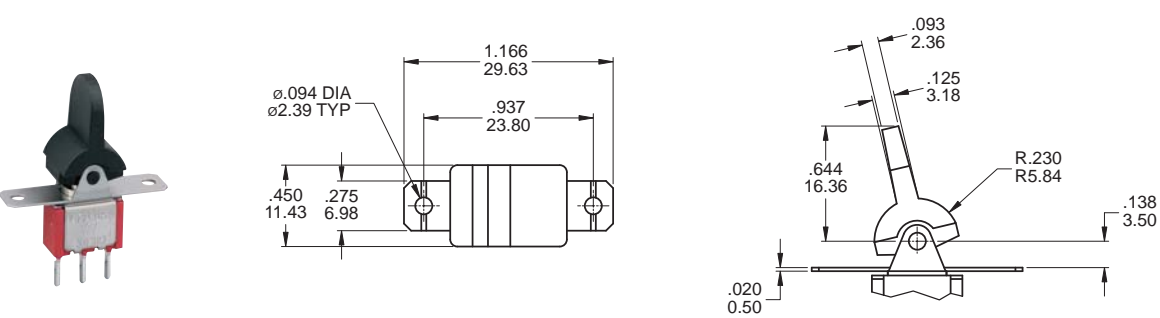
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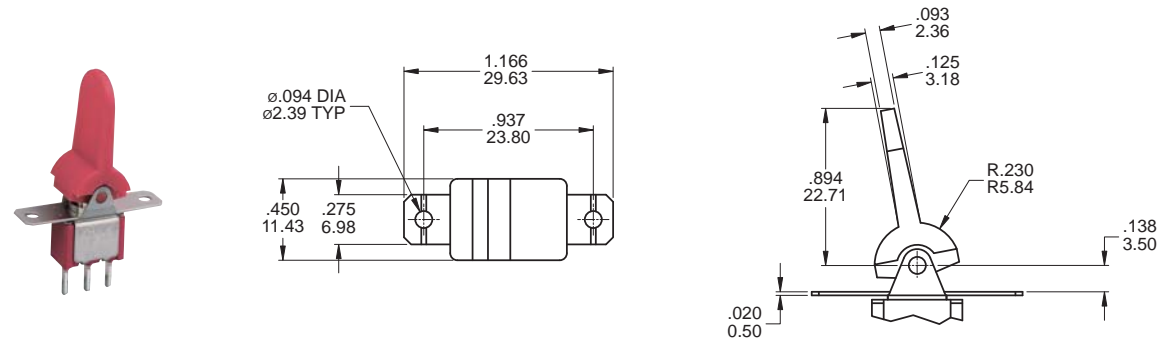
R11



R12



R13



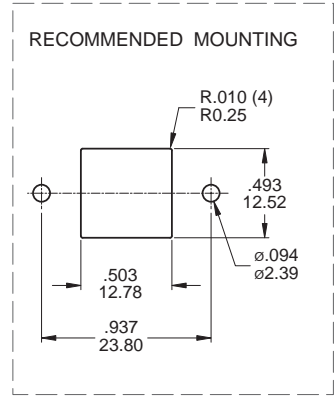
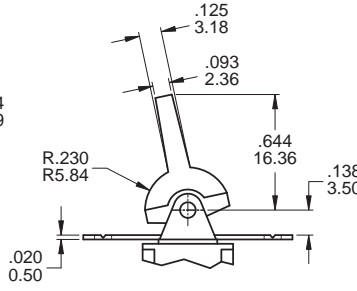
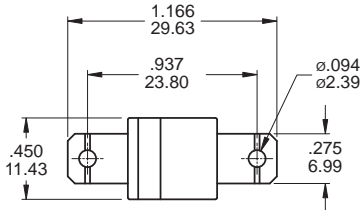
3M Series

Miniature Rocker & Paddle Switches

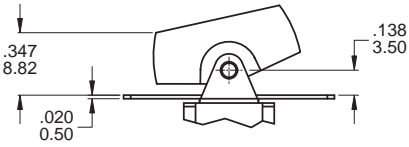
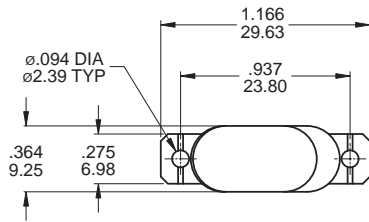


3M
Rocker Switches

R16

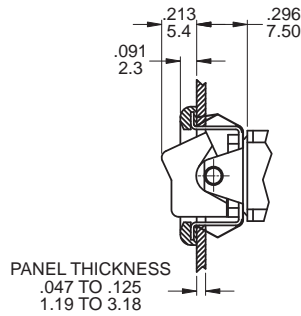
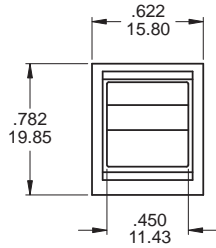


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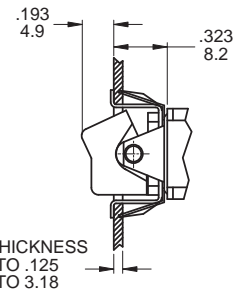


ACTUATOR OPTIONS SNAP-IN FRONT MOUNT

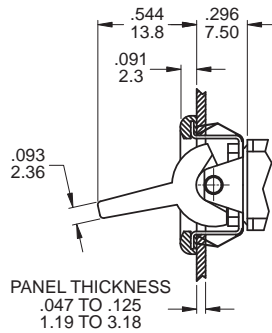
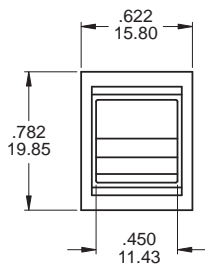
R6



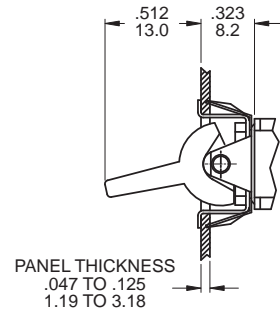
R6K Snap-in



R7

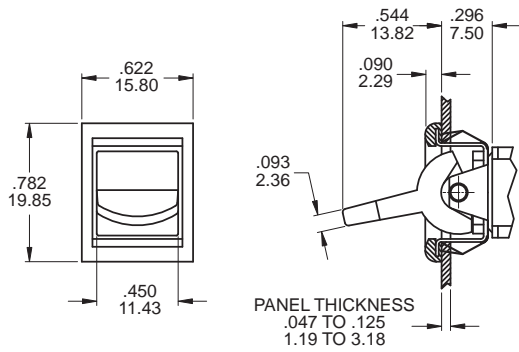


R7K Snap-in

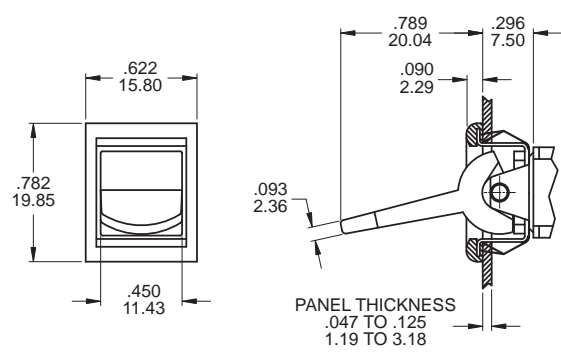




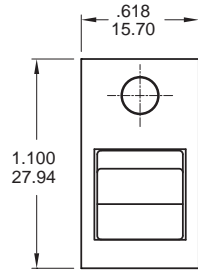
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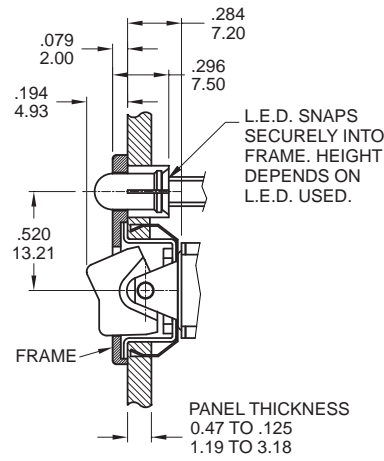
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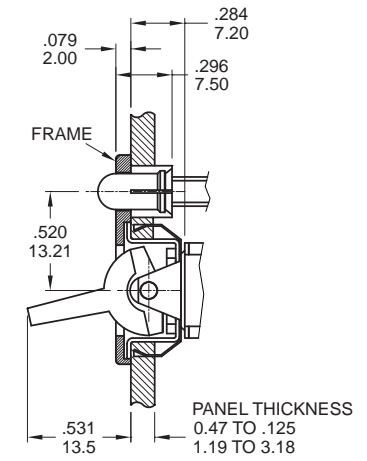
R18



▲ R17



▲ R17



CAP and FRAME colors

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

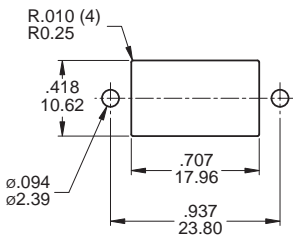
LED colors

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

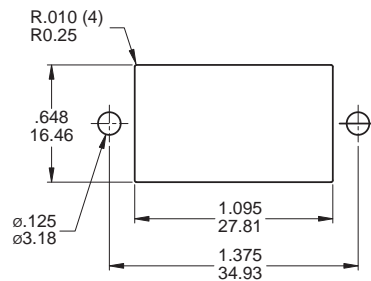
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PANEL MOUNTING

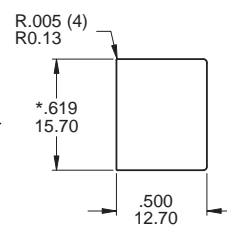
For R1-R2



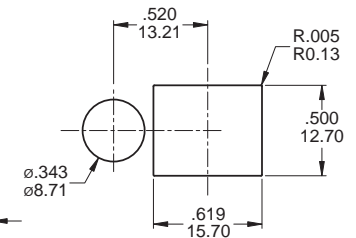
For R3-R4



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 Series

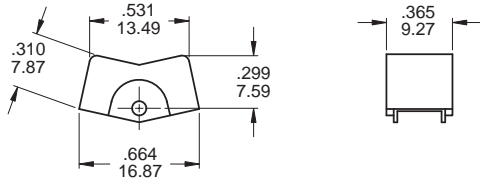
Miniature Rocker & Paddle Switches

ACTUATOR OPTIONS FOR P.C. MOUNT ONLY

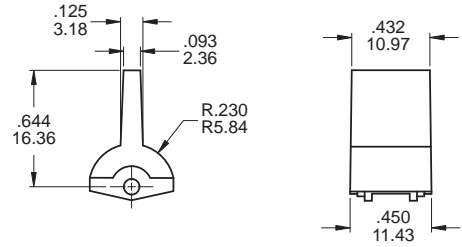


3M
Rocker Switches

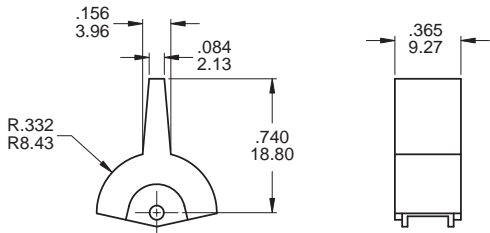
J1



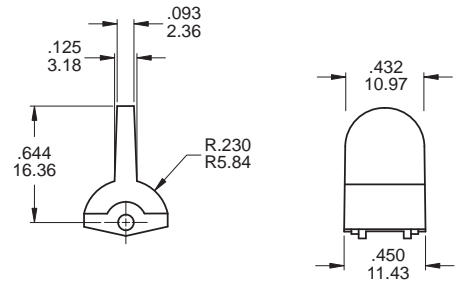
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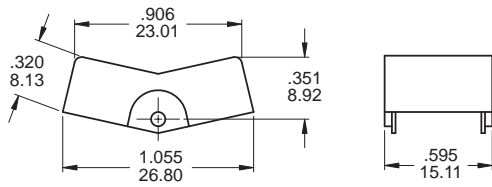
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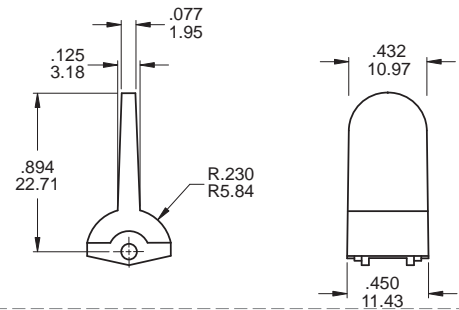
J7



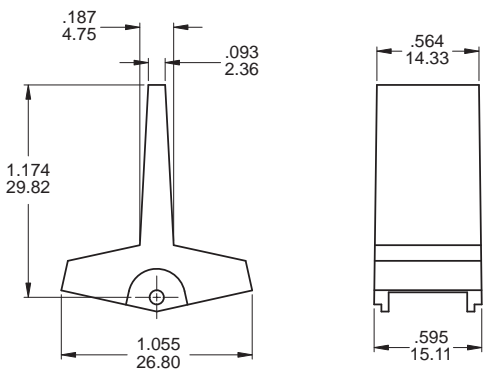
J3



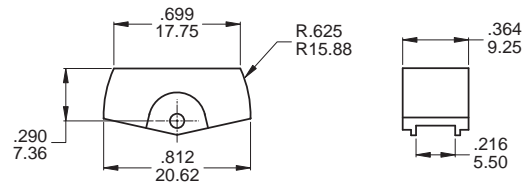
J8



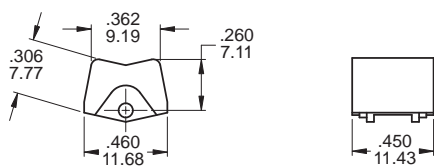
J4



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

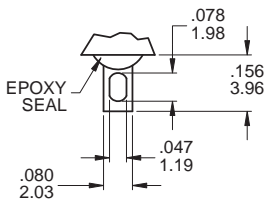
* Besides standard color, other colors need to check stocks available.



3M
Rocker Switches

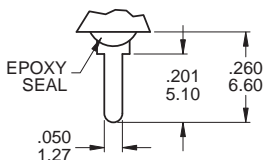
TERMINATION OPTIONS

M1 Solder lug



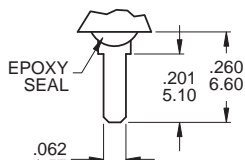
THK .030(0.76)

M2 PC Thru-hole



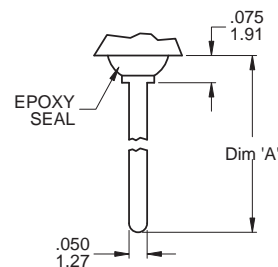
THK .030(0.76)

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

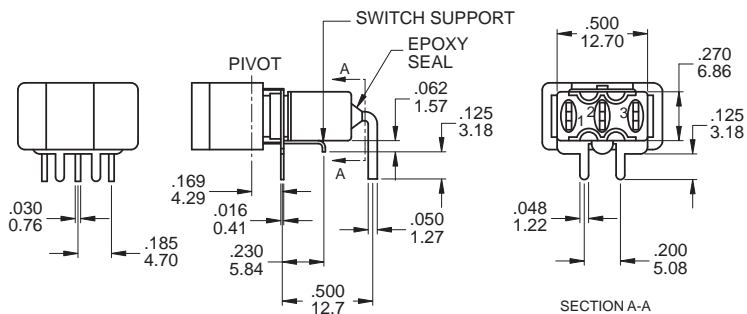
VS5 Vertical bracket P.C. Mount

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

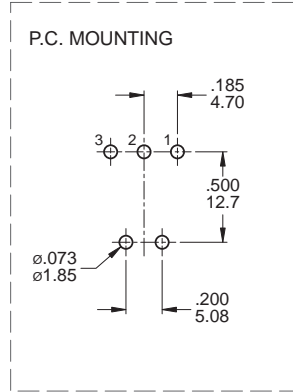
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

* Shown with J1 Actuator

M6



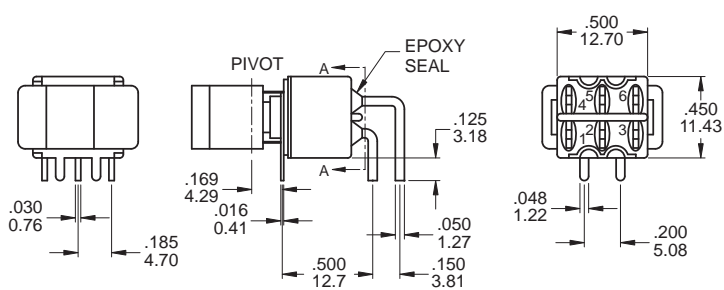
SECTION A-A
TERM.NOS.FOR
REFERENCE ONLY



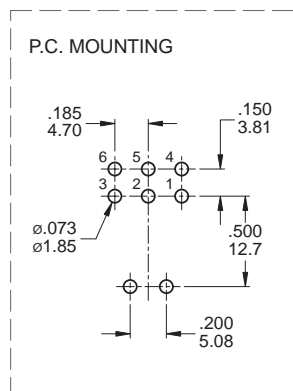
SPDT

Part No. Shown : 3MS1J102M6QES

M7



SECTION A-A
TERM.NOS.FOR
REFERENCE ONLY



DPDT

Part No. Shown : 3MD1J102M6QES

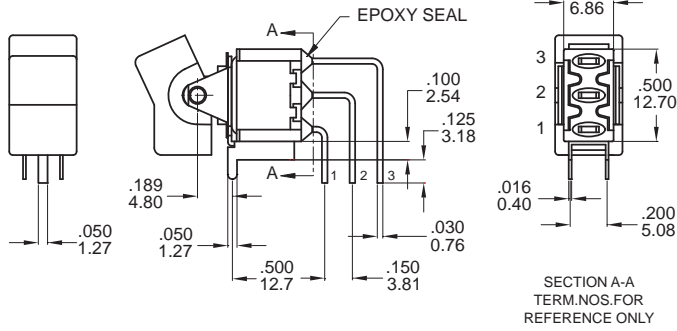
3M Series

Miniature Rocker & Paddle Switches

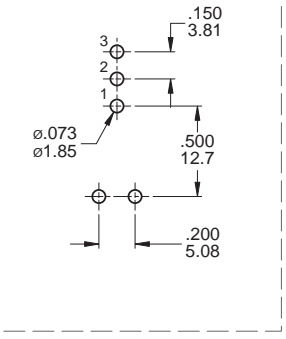


3M
Rocker Switches

M7



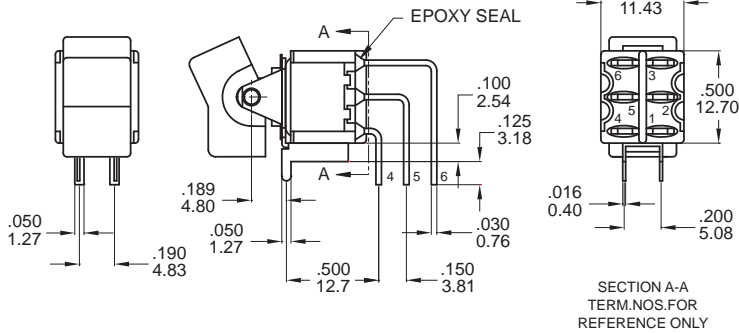
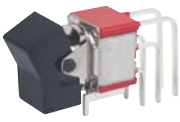
P.C. MOUNTING



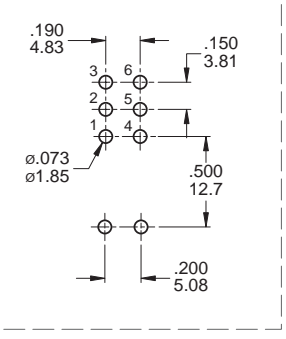
SPDT

Part No. Shown : 3MS1J102M7QES

M7



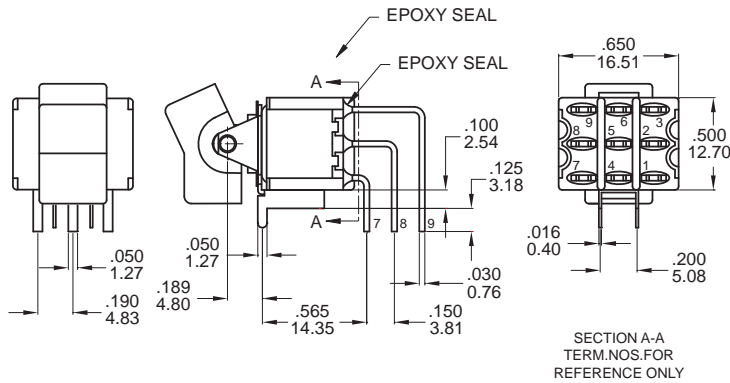
P.C. MOUNTING



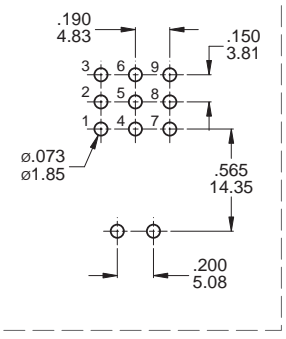
DPDT

Part No. Shown : 3MD1J102M7QES

M7



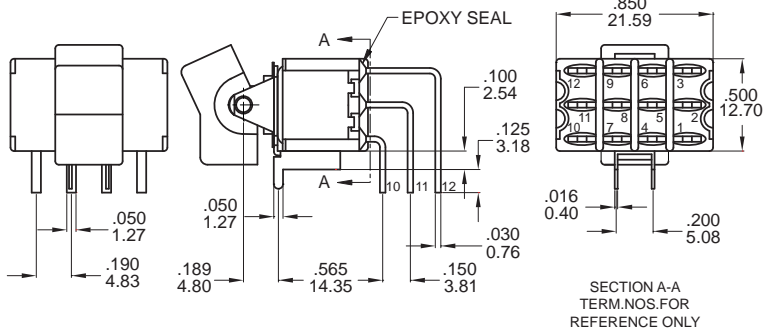
P.C. MOUNTING



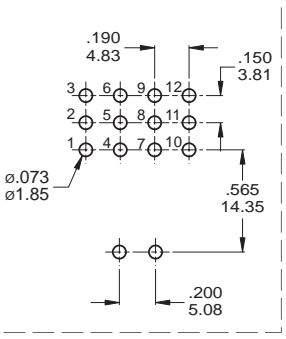
3PDT

Part No. Shown : 3M31J102M7QES

M7



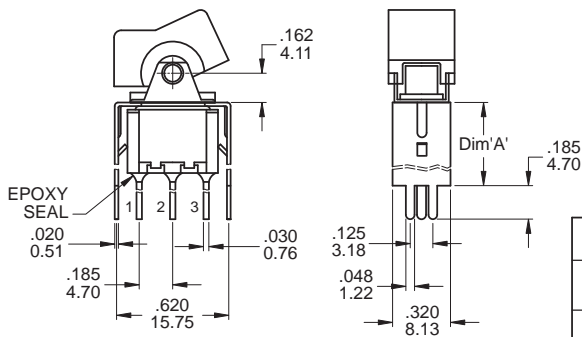
P.C. MOUNTING



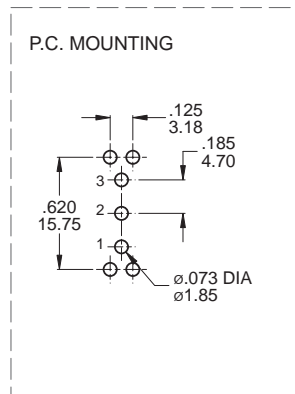
4PDT

Part No. Shown : 3M41J102M7RES

VS2 - VS3



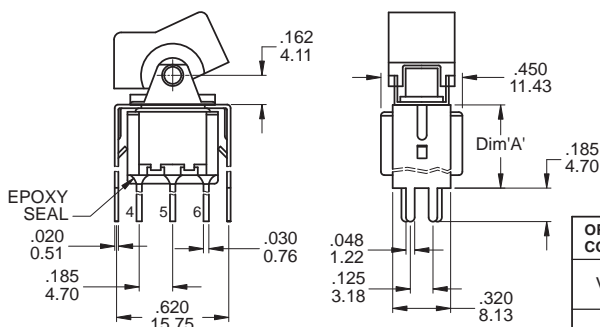
OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00



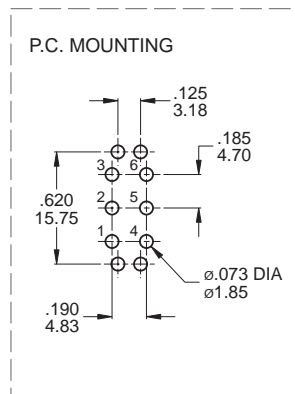
SPDT

Part No. Shown : 3MS1J102VS2QES

VS2 - VS3



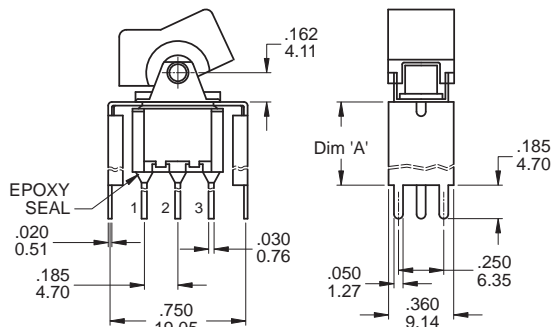
OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00



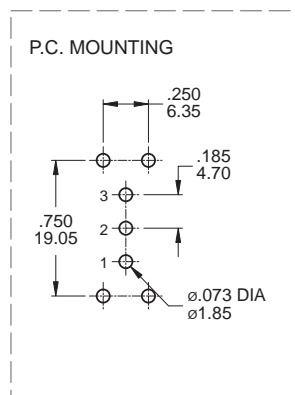
DPDT

Part No. Shown : 3MD1J102VS2QES

VS4 - VS5



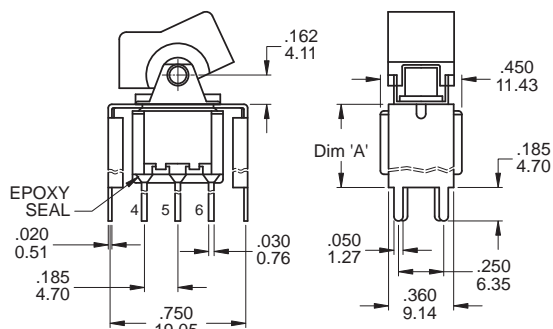
OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00



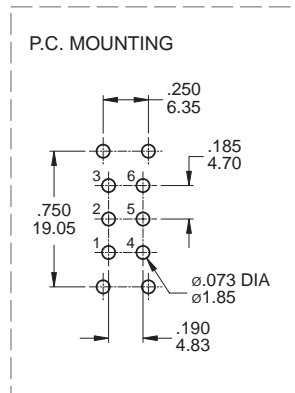
SPDT

Part No. Shown : 3MS1J102VS4QES

VS4 - VS5



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



DPDT

Part No. Shown : 3MD1J102VS5QES

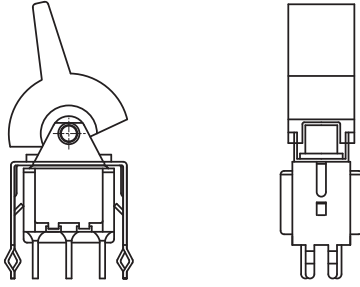


3M Series

Miniature Rocker & Paddle Switches

SNAP-IN TERMINATION OPTIONS

V2N



CONTACT MATERIAL OPTIONS

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