

SPECIFICATIONS

CONTACT RATING: Dependent upon contact material See Page 69.

MECHANICAL LIFE: 30,000 make-and-break cycles.

CONTACT RESISTANCE: 20 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.

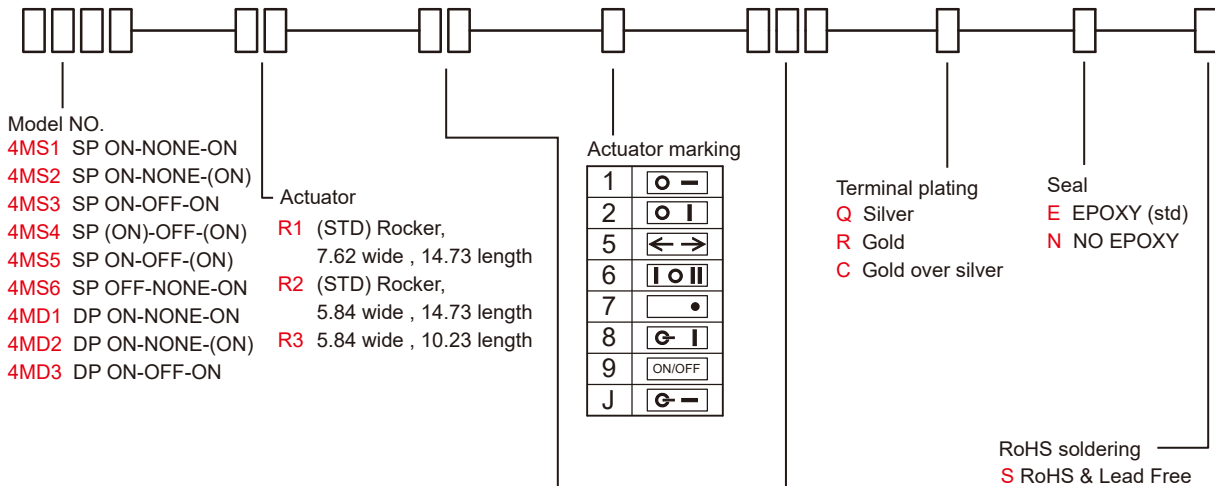
SWITCH SUPPORT: SUS or Brass,tin plated.

TERMINAL/CONTACT: Copper alloy or Brass,with silver or gold plated.(See Page 69)



HOW TO ORDER

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



- Model NO.
4MS1 SP ON-NONE-ON
4MS2 SP ON-NONE-(ON)
4MS3 SP ON-OFF-ON
4MS4 SP (ON)-OFF-(ON)
4MS5 SP ON-OFF-(ON)
4MS6 SP OFF-NONE-ON
4MD1 DP ON-NONE-ON
4MD2 DP ON-NONE-(ON)
4MD3 DP ON-OFF-ON

- Actuator
R1 (STD) Rocker, 7.62 wide , 14.73 length
R2 (STD) Rocker, 5.84 wide , 14.73 length
R3 5.84 wide , 10.23 length

Actuator marking

Table with 2 columns: Marking (1-9, J) and corresponding symbols for actuator markings.

Actuator color

Table with 2 columns: ITEM NO (01-09) and COLOR (White, Black (Std), Red, Orange, Yellow, Green, Blue, Brown, Gray).

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

- Terminal plating
Q Silver
R Gold
C Gold over silver

- Seal
E EPOXY (std)
N NO EPOXY

- RoHS soldering
S RoHS & Lead Free

Terminations

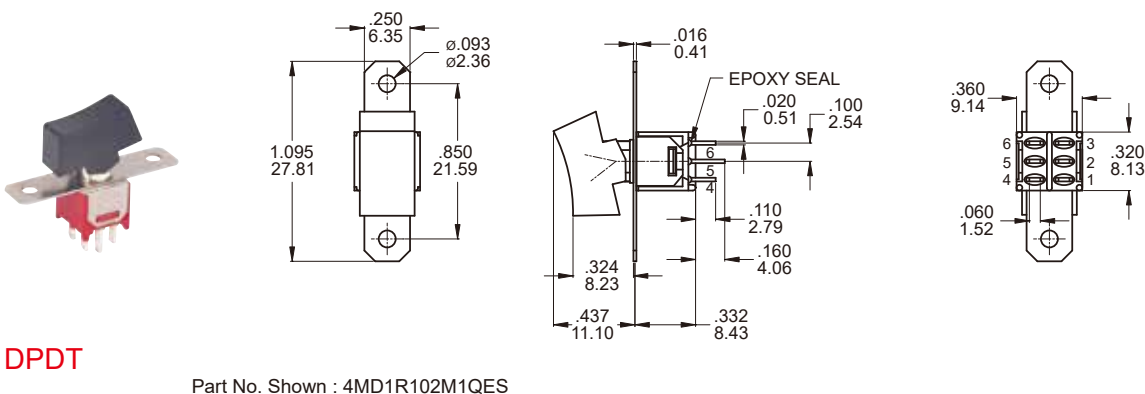
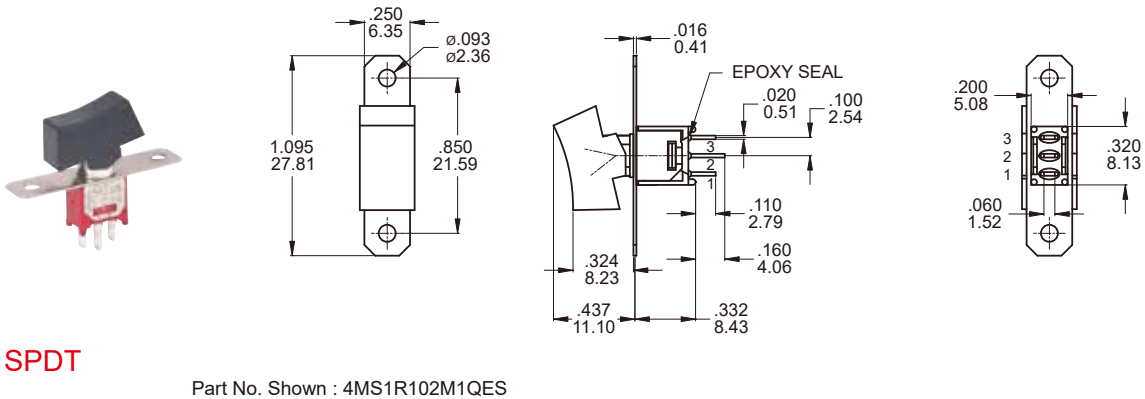
- M1 Solder Lug
M2 PC thru-hole
M5 wire wrap
M6 Right angle, PC thru-hole
M6N Right angle, snap-in, PC thru-hole
M7 Vertical right angle, PC thru-hole
M7N Vertical right angle, snap-in, PC thru-hole
VS2 8.94 high, V-bracket
V2N 8.94 high, snap-in V-bracket
VS3 8.94 high, V-bracket
V3N 8.94 high, snap-in V-bracket

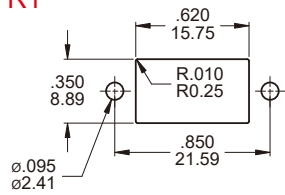
\* 4MS6 model type not applicable to M6/M6N/M7/M7N terminations

**SWITCH FUNCTION**

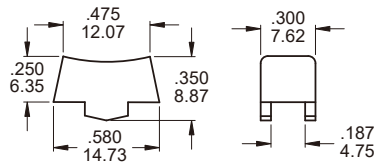
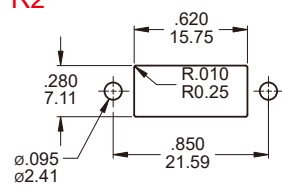
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q2411	4MS1	ON	NONE	ON	2-3	N/A	2-1
	Q2412	4MS2	ON	NONE	(ON)			
	Q2413	4MS3	ON	OFF	ON		OPEN	
	Q2414	4MS4	(ON)	OFF	(ON)			
	Q2415	4MS5	ON	OFF	(ON)			
		Q2416	4MS6	OFF	NONE	ON	OPEN	N/A
DP	Q2421	4MD1	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4
	Q2422	4MD2	ON	NONE	(ON)			
	Q2423	4MD3	ON	OFF	ON		OPEN	

( ) =MOMENTARY

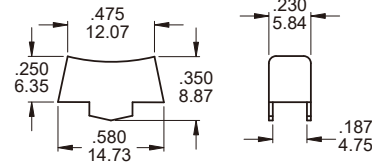
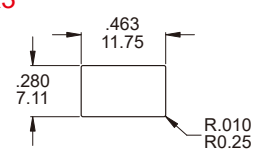
**POLE OPTIONS**


**ACTUATOR OPTIONS - PANEL MOUNT**
**R1**


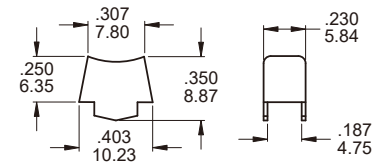
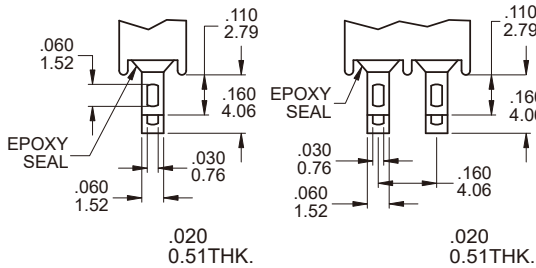
PANEL MOUNTING-R1


**R2**


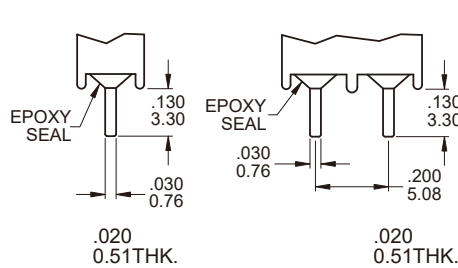
PANEL MOUNTING-R2


**R3**


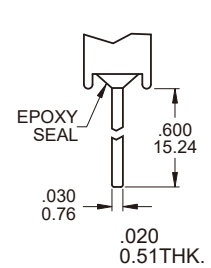
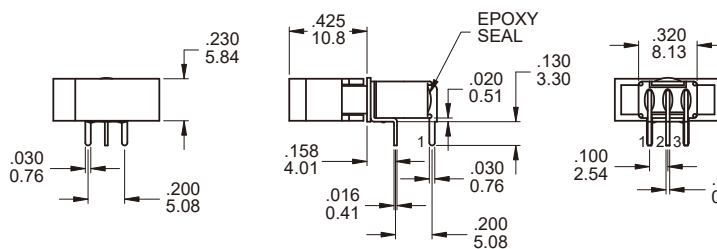
PANEL MOUNTING-R3


**TERMINATION OPTIONS**
**M1 Solder lug**


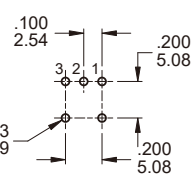
Double Pole

**M2 PC Thru-hole**


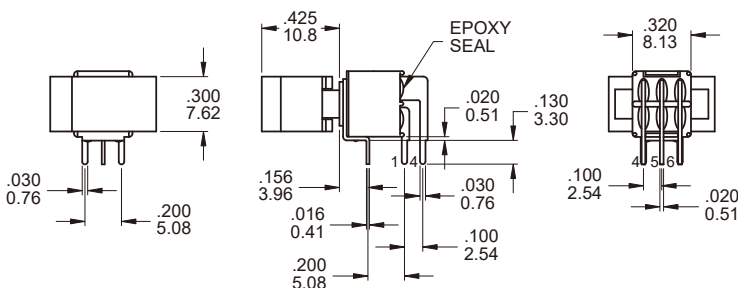
Double Pole

**M5 Wire Wrap**

**M6**


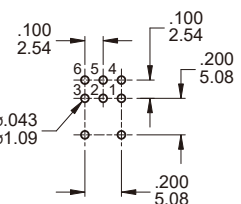
P.C. MOUNTING


**SPDT**

Part No. Shown : 4MS1R202M6QES

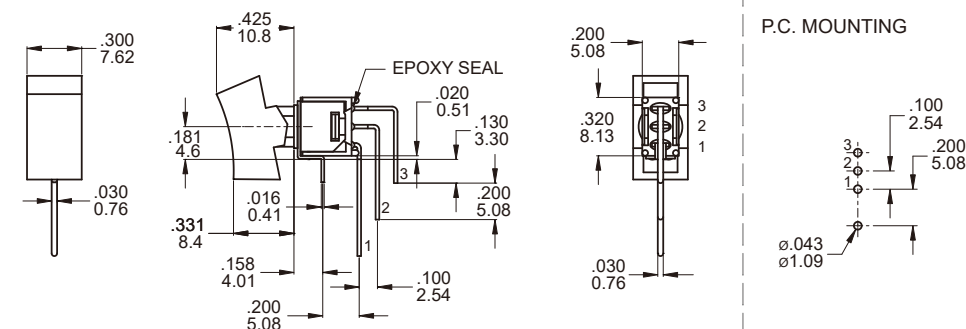
**M6**


P.C. MOUNTING


**DPDT**

Part No. Shown : 4MD1R102M6QES

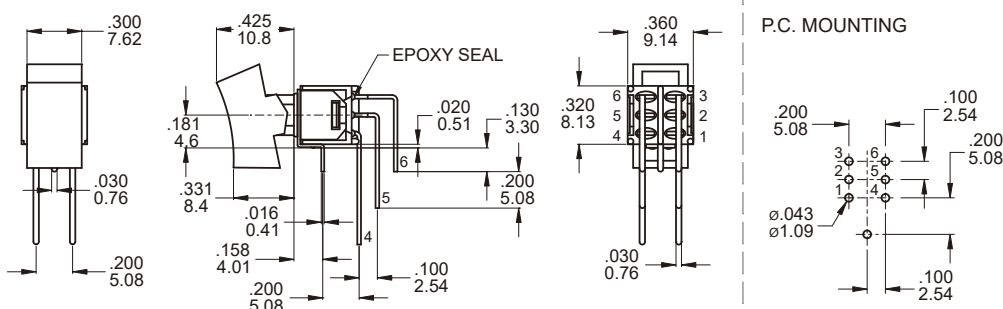
**M7**



**SPDT**

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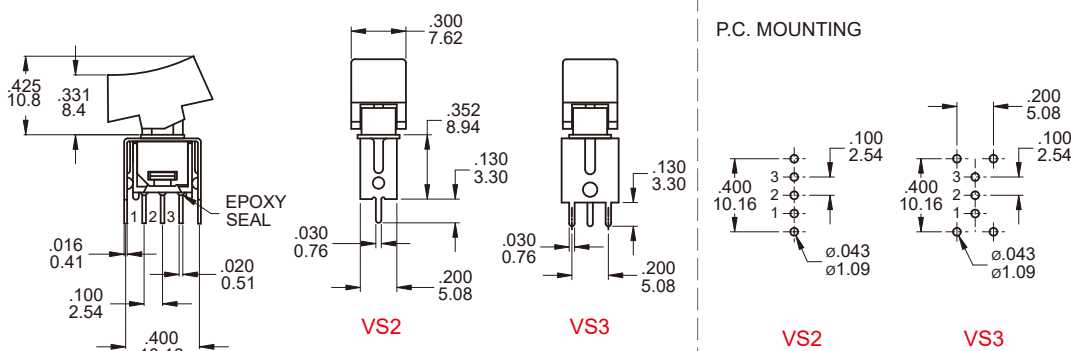
**M7**



**DPDT**

Part No. Shown : 4MD1R102M7QES

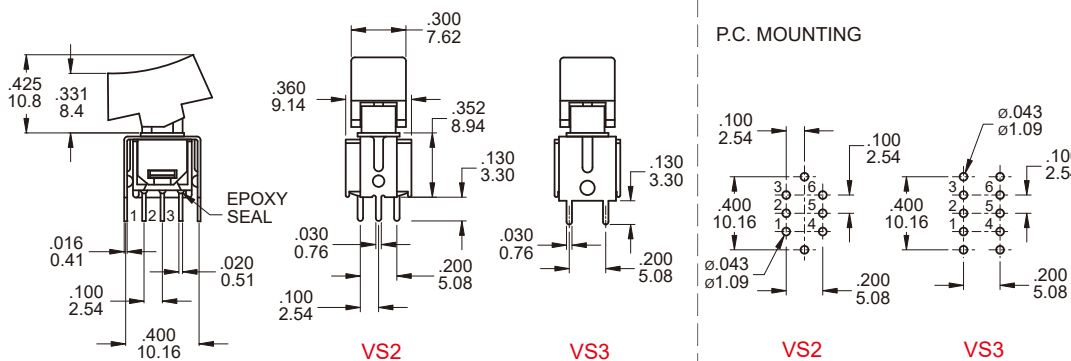
**VS2 - VS3**



**SPDT**

Part No. Shown : 4MS1R102VS2QES

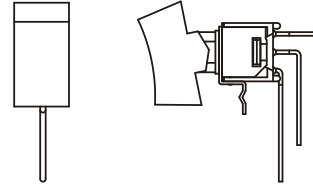
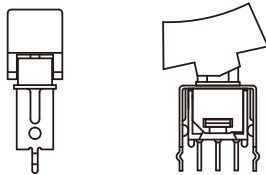
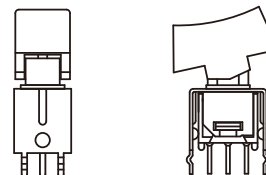
**VS2 - VS3**



**DPDT**

Part No. Shown : 4MD1R102VS2QES

**SNAP-IN TERMINATION OPTIONS**
**M6N**

**M7N**

**V2N**

**V3N**

**CONTACT MATERIAL OPTIONS**

	<b>CONTACT PLATING</b>	<b>TERMINAL PLATING</b>	<b>RATINGS</b>
<b>Q</b>	Silver	Silver	3 Amps with resistant load @ 120VAC or 28VDC
<b>C</b>	Gold over Silver	Gold over silver	1 Amps with resistant load @ 250VAC
<b>R</b>	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)