

Toggle Switches

Miniature



Specifications:

Contact rating	: Dependent upon contact material.
Mechanical life	: 40,000 make and break cycles.
Maximum contact resistance	: 10m Ω .
Initial voltage	: 2 to 4V dc.
Current	: 10mA for both silver and gold plated contacts.
Minimum Insulation resistance:	: 1,000M Ω .
Dielectric strength	: 1,000Vrms at sea level.
Operating temperature	: -30°C to 85°C.

Materials:

Case	: Diallyl phthalate (DAP) (UL94v-0).
Actuator	: Brass, chrome plated.
Bushing	: Brass, nickel plated.
Housing	: Stainless steel.
Switch support	: Brass, tin plated.
Terminal/contact	: Silver or gold plated.

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Switch Function

Number of Poles	UL/CSA Model Numbers	Model Number	Switch Function			Connected Terminals/Schematic		
			Position 1	Position 2	Position 3	Position 1	Position 2	Position 3
SP	Q1111	1MS1	On	None	ON	2 to 3	N/A	2 to 1
	Q1112	1MS2		None	MOM			
	Q1113	1MS3	Off	ON				
	Q1114	1MS4		MOM	Open			
	Q1115	1MS5	MOM					
DP	Q1121	1MD1	On	None	ON	2 to 3, 5 to 8	N/A	2 to 1, 5 to 4
	Q1122	1MD2		None	MOM			
	Q1123	1MD3	Off	ON		Open		
	Q1124	1MD4		MOM				
	Q1125	1MD5	On	MOM				
	Q1126	1MD6		On	2 to 3, 5 to 6	2 to 3, 5 to 4	2 to 1, 5 to 4	
	Q1127	1MD7	MOM	On	MOM			
	Q1128	1MD8	MOM					
3P	Q1131	1M31	On	None	On	2 to 3, 5 to 6, 8 to 9	N/A	2 to 1, 5 to 4, 8 to 7
4P	Q1141	1M41				On		2 to 3, 5 to 6, 8 to 9, 11 to 12

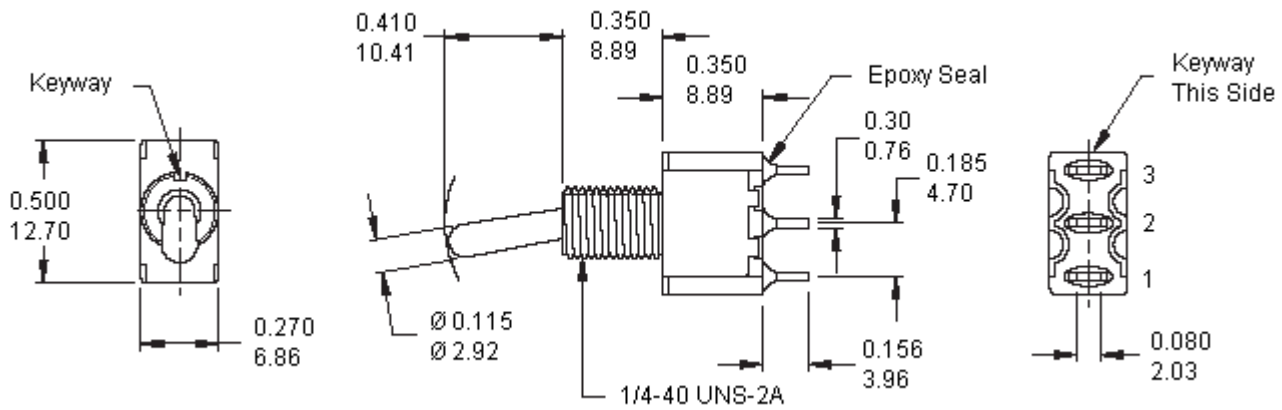
Pole Options

SPDT

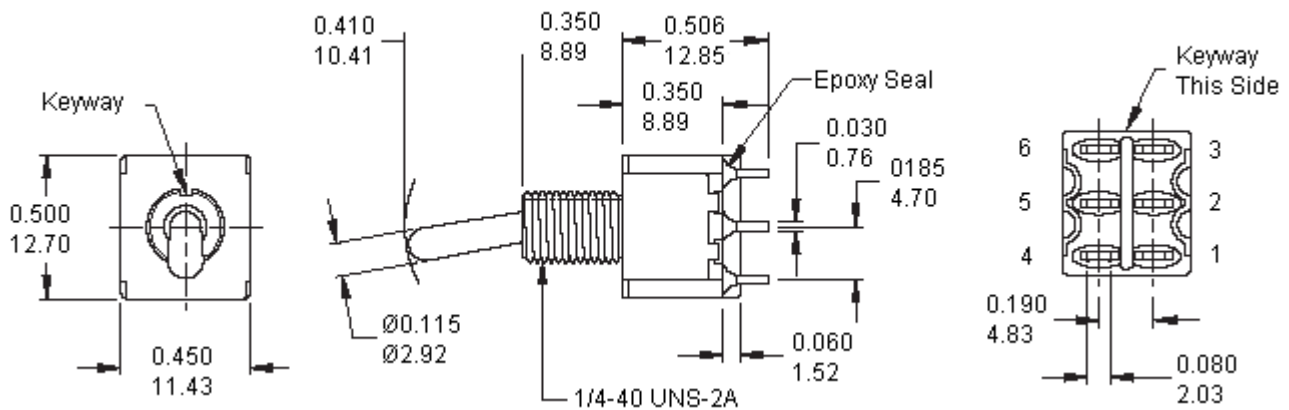


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Pole Options DPDT



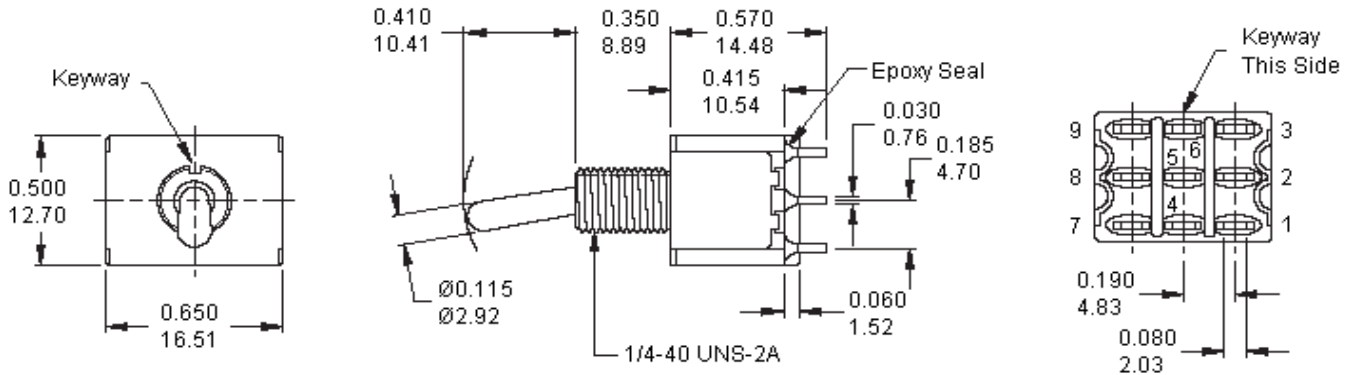
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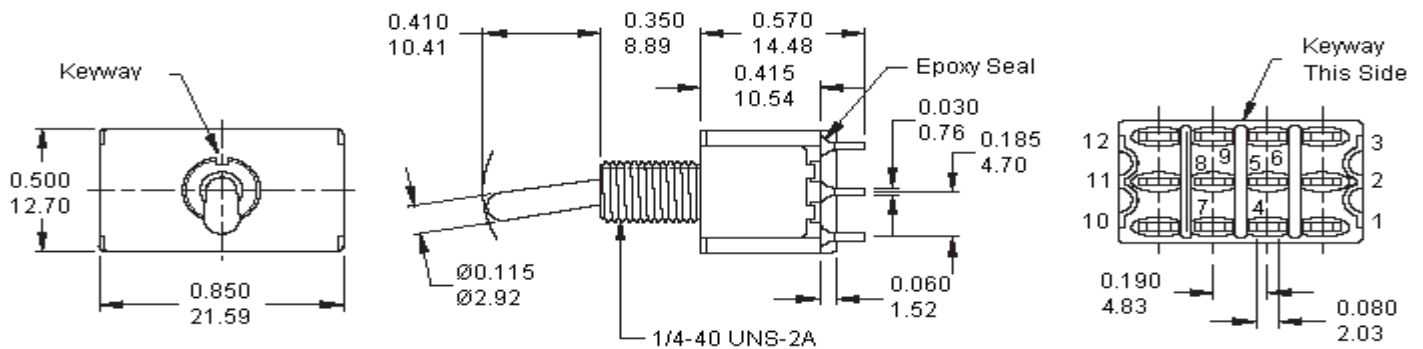
Pole Options

3PDT



Pole Options

4PDT



Toggle Switches

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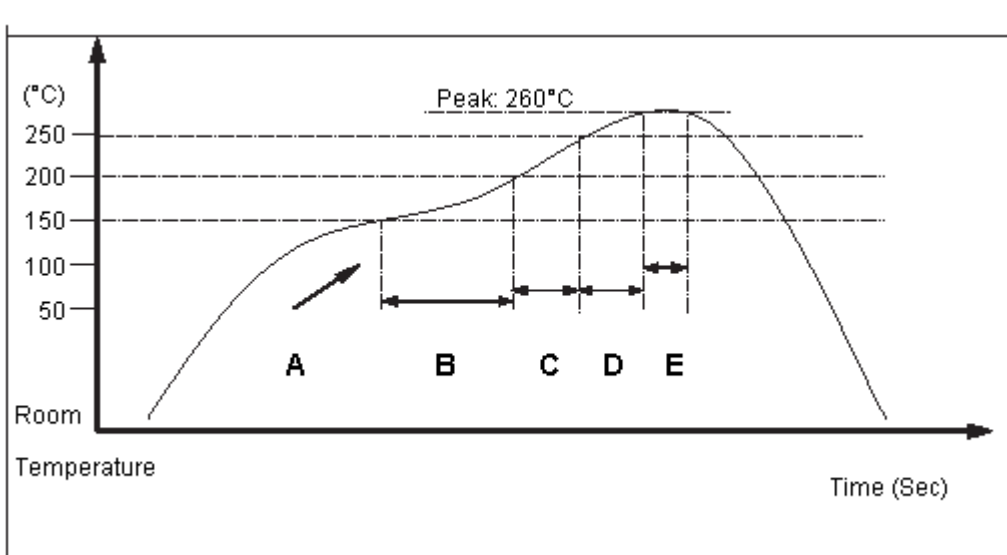
Soldering Process:

- 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 : Vapour Phase

Temperature Profile

Zone	Room Temperature	Time (seconds)
Pre-heat (A)	150°C	Minimum 120 seconds
Soak (B)	180°C to 200°C	Minimum 150 seconds
Peak (C)	200°C to 235°C	Minimum 30 seconds
Peak (D)	235°C to 260°C	Minimum 40 seconds
Peak (E)	260°C	Maximum 10 seconds



Part Number Table

Description	Part Number
Switch, PCB, SPDT, VERT	1MS1T2B4V2RE
Switch, PCB, SPDT, VERT	1MS3T2B4V2RE
Switch, PCB, SPDT, VERT	1MS2T2B4V2RE
Switch, PCB, SPDT, VERT	1MS4T2B4V2RE
Switch, PCB, SPDT, VERT	1MS5T2B4V2RE
Switch, PCB, DPDT, VERT	1MD1T2B4V3RE
Switch, PCB, SPDT, HORIZ	1MS1T2B4M6RE
Switch, PCB, SPDT, HORIZ	1MS3T2B4M6RE

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Part Number Table

Description	Part Number
Switch, PCB, SPDT, HORIZ	1MS4T2B4M6RE
Switch, PCB, DPDT, HORIZ	1MD1T2B4M6RE
Switch, PCB, DPDT, HORIZ	1MD3T2B4M6RE
Switch, PCB, SPDT, HORIZ	1MS1T2B4M7RE
Switch, PCB, SPDT, HORIZ	1MS3T2B4M7RE
Switch, PCB, DPDT, HORIZ	1MD1T2B4M7RE
Switch, SPDT	1MS1T1B5M1QE
Switch, SPDT	1MS3T1B5M1QE
Switch, DPDT	1MD1T1B5M1QE
Switch, DPDT	1MD3T1B5M1QE
Switch, SPDT	1MS1T1B1M1QE
Switch, SPDT	1MS1T1B1M1RE
Switch, SPDT	1MS3T1B1M1QE
Switch, SPDT	1MS3T1B1M1RE
Switch, SPDT	1MS4T1B1M1QE
Switch, SPDT	1MS4T1B1M1RE
Switch, SPDT	1MS5T1B1M1QE
Switch, SPDT	1MS5T1B1M1RE
Switch, SPDT	1MS2T1B1M1QE
Switch, SPDT	1MS2T1B1M1RE
Switch, DPDT	1MD1T1B1M1QE
Switch, DPDT	1MD1T1B1M1RE
Switch, DPDT	1MD3T1B1M1QE
Switch, DPDT	1MD3T1B1M1RE
Switch, DPDT	1MD4T1B1M1QE
Switch, DPDT	1MD4T1B1M1RE
Switch, DPDT	1MD5T1B1M1QE
Switch, DPDT	1MD5T1B1M1RE
Switch, 3PDT	1M31T1B1M1QE
Switch, 4PDT	1M41T1B1M1QE
Switch, SPDT	1MS1T6B11M1QE
Switch, SPDT	1MS3T6B11M1QE
Switch, SPDT	1MS4T6B11M1QE
Switch, SPDT	1MS5T6B11M1QE
Switch, SPDT	1MS2T6B11M1QE
Switch, DPDT	1MD1T6B11M1QE
Switch, DPDT	1MD3T6B11M1QE
Switch, 3PDT	1M31T6B11M1QE
Switch, 4PDT	1M41T6B11M1QE

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Model No	Actuator	Bushing	Terminations	Contact Material	Seal
1 M S 1	T 2	B 4	V 2	R	E
Model No	Actuator	Bushing	Terminations	Contact Material	Seal
1MS1 SP On-None-On	T1 10.41 high	B1 8.89 high, keyway (thd std)	M1 Solder Lug	Q Silver	E EPOXY (std)
1MS2 SP On-None-Mom	T2 5.08 high	B2 8.89 high, keyway (non-thd)	M2 PC thru-hole	R Gold	N NO EPOXY
1MS3 SP On-Off-On	T3 13.97 high	B3 7.10 high, keyway (thd)	M3 Quick Connect	G Gold, pure-tin	
1MS4 SP Mom-Off-Mom	T4 16.26 high	B4 7.10 high, keyway (non-thd)	M5-1 18.70 high, wire wrap	S Silver, pure-tin	
1MS5 SP On-Off-Mom	T5 21.34 high	B5 7.52 high, flat (torque)	M5-2 24.20 high, wire wrap	C Gold over silver	
1MD1 DP On-None-On	T6 Flatted, anti-rotation	B6 8.00 high, keyway (torque)	M5-3 10.55 high, wire wrap	K Gold over silver, pure-tin	
1MD2 DP On-None-Mom	12.30 high	B7 8.89 high, flat (thd std)	M5-4 26.97 high, wire wrap		
1MD3 DP On-Off-On	T81 Flatted, anti-rotation	B8 8.89 high, keyway (metric thd)	M6 Right angle, PC thru-hole		
1MD4 DP Mom-Off-Mom	21.0 high	B9 7.52 high, flat (splash proof)	M6N Right angle, snap-in, PC thru-hole		
1MD5 DP On-Off-Mom	T82 Lower Handle with Cap	B11 7.55 high, keyway (thd std)	M7 Vertical right angle, PC thru-hole		
1MD6 DP On-On-On	13.49 high	B12 7.55 high, keyway (non-thd)	VS2 11.68 high, V-bracket		
1MD7 DP Mom-On-Mom	T83 Flatted, anti-rotation	B13 11.38 high, keyway (15/32 bushing)	V2N 11.68 high, snap-in V-bracket		
1MD8 DP On-On-Mom	6.35 high	B14 11.90 high, flat (splash proof)	VS3 16.00 high, V-bracket		
1M31 3P On-Non-On	T7 12.37 high, 15/32 bushing	B15 7.55 high, flat (thd std)	VS4 11.68 high, V-bracket		
1M32 3P On-Non-Mom	T8 17.56 high, 15/32 bushing	B16 7.55 high, flat (non-thd)	VS5 16.00 high, V-bracket		
1M33 3P On-Off-On	T9 Plastic, 21.3 high	B17 3.50 high, keyway			
1M34 3P Mom-Off-Mom	TA 26.30 high level handle with cap, 15/32 Bushing	B18 11.38 high, keyway (15/32 bushing)			
1M35 3P On-Off-Mom		B20 11.38 high, keyway (15/32 bushing)			
1M41 4P On-Non-On	T11 Plastic, 12.2 high	B25 8.00 high, keyway, locking lever (thd)			
1M42 4P On-Non-Mom	TL1 Locking lever 16.00 high	B26 8.00 high, keyway, locking lever (non-thd)			
1M43 4P On-Off-On	TL2 Locking lever 16.26 high				
1M44 4P Mom-Off-Mom	TL3 Locking lever 17.28 high				
1M45 4P On-Off-Mom					
1M48 4P On-On-On					
1M47 4P Mom-On-Mom					
1M48 4P On-On-Mom					

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