

TOGGLE SWITCHES

- Save Space and Weight
- SPDT, DPDT, 3PDT, and 4DPT Circuitry
- Choice of Actuators, Bushings and Terminations
- PC and Panel Mount Versions

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Typical Applications:

- Computers and Peripherals
- Instrumentation
- Medical Equipment
- Telecommunications
- Test and Measurement Equipment

TOGGLE SWITCHES

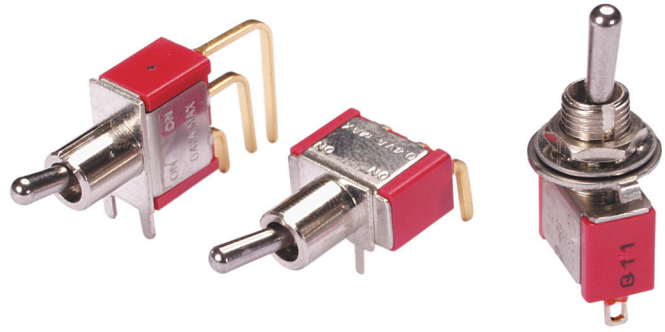
Series	34A	34B	34C	34D	34E
Page Number	4-9	10-13	14-17	18-20	21-24
Size	Miniature	Miniature	Sub-Miniature	Sub-Miniature	Sub-Miniature
Circuitry	SPDT, DPDT, 3PDT, 4PDT	SPDT, DPDT, 3PDT	SPDT, DPDT	SPDT, DPDT	SPDT
Max Contact Rating	5A	5A	3A	3A	0.4VA
Process Sealed		Yes		Yes	Yes
Mounting Options					
PC Vertical	Yes	Yes	Yes	Yes	
PC Vertical w/ Support Bracket	Yes	Yes	Yes	Yes	
PC Right Angle	Yes	Yes	Yes	Yes	
PC Right Angle Vertical	Yes	Yes	Yes	Yes	
Surface Mount					Yes
Panel	Yes	Yes	Yes		
Termination Options					
Solder Lug	Yes	Yes	Yes		
PC Mount	Yes	Yes	Yes	Yes	
PC Mount, Quick Connect	Yes				
Gullwing					Yes

SERIES 34A

Miniature Toggle Switches

FEATURES

- Save Space and Weight
- SPDT, DPDT, 3PDT, and 4PDT Circuitry
- Choice of Actuators, Bushings and Terminations
- UL Recognized

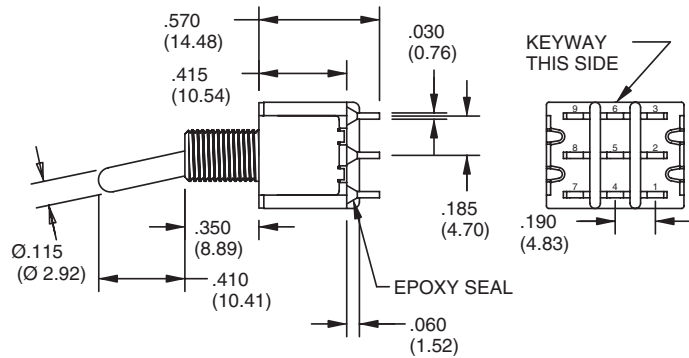
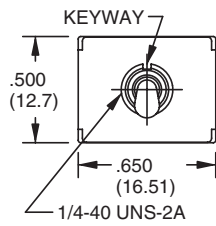
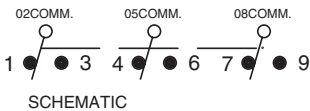


MODELS In inches (and millimeters)

SPDT

MODEL NO.	SWITCH POSITION		
3P1	ON	NONE	ON
3P2	ON	NONE	(ON)
3P3	ON	OFF	ON
3P4	(ON)	OFF	(ON)
3P5	ON	OFF	(ON)
TERM. COMM.	2-3,5-6 8-9	OPEN	2-1,5-4 8-7

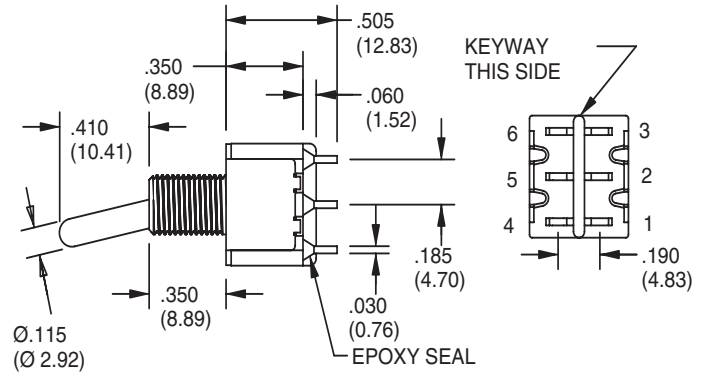
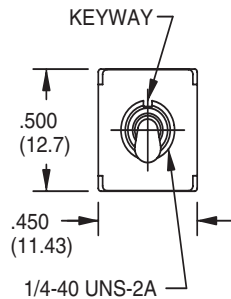
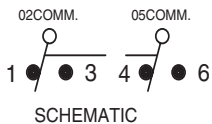
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DPDT

MODEL NO.	SWITCH POSITION		
DP1	ON	NONE	ON
DP2	ON	NONE	(ON)
DP3	ON	OFF	ON
DP4	(ON)	OFF	(ON)
DP5	ON	OFF	(ON)
TERM. COMM.	2-3, 5-6	OPEN	2-1, 5-4

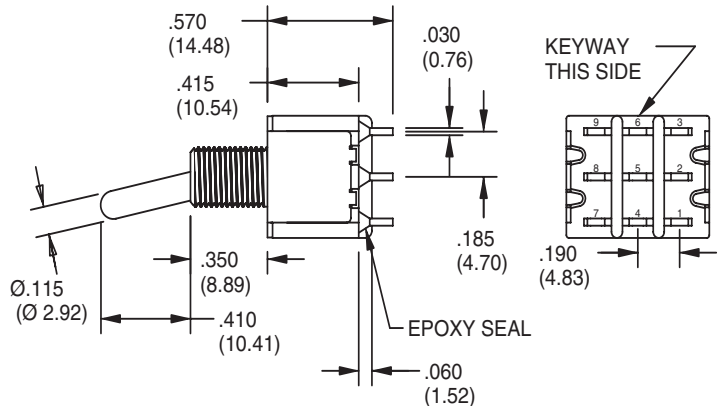
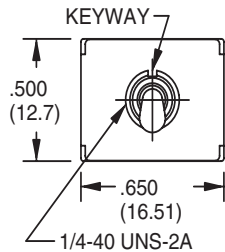
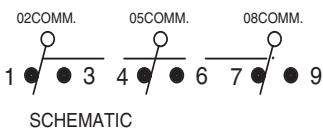
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3PDT

MODEL NO.	SWITCH POSITION		
3P1	ON	NONE	ON
3P2	ON	NONE	(ON)
3P3	ON	OFF	ON
3P4	(ON)	OFF	(ON)
3P5	ON	OFF	(ON)
TERM. COMM.	2-3,5-6 8-9	OPEN	2-1,5-4 8-7

()=MOMENTARY



MODELS In inches (and millimeters)

4PDT

MODEL NO.	SWITCH POSITION		
	ON	NONE	ON
4P1	ON	NONE	ON
4P2	ON	NONE	(ON)
4P3	ON	OFF	ON
4P4	(ON)	OFF	(ON)
4P5	ON	OFF	(ON)
TERM. COMM.	2-3,5-6 8-9,11-12	OPEN	2-1,5-4 8-7,11-10

()=MOMENTARY

SCALE:1.5:1

KEYWAY THIS SIDE

EPOXY SEAL

SCHEMATIC

ACTUATOR OPTIONS In inches (and millimeters)

<p>1 Std</p>	<p>2</p>	<p>3</p>	<p>4</p>	<p>5</p>
<p>6</p> <p>Use with Bushing Options T1, T2, T5 and T6 only.</p>	<p>7</p> <p>Use T7 Bushing Option only.</p>	<p>8</p> <p>Use T7 Bushing Option only.</p>	<p>9 Nylon Black</p>	<p>L THD. (STD.) N NON-THD</p>

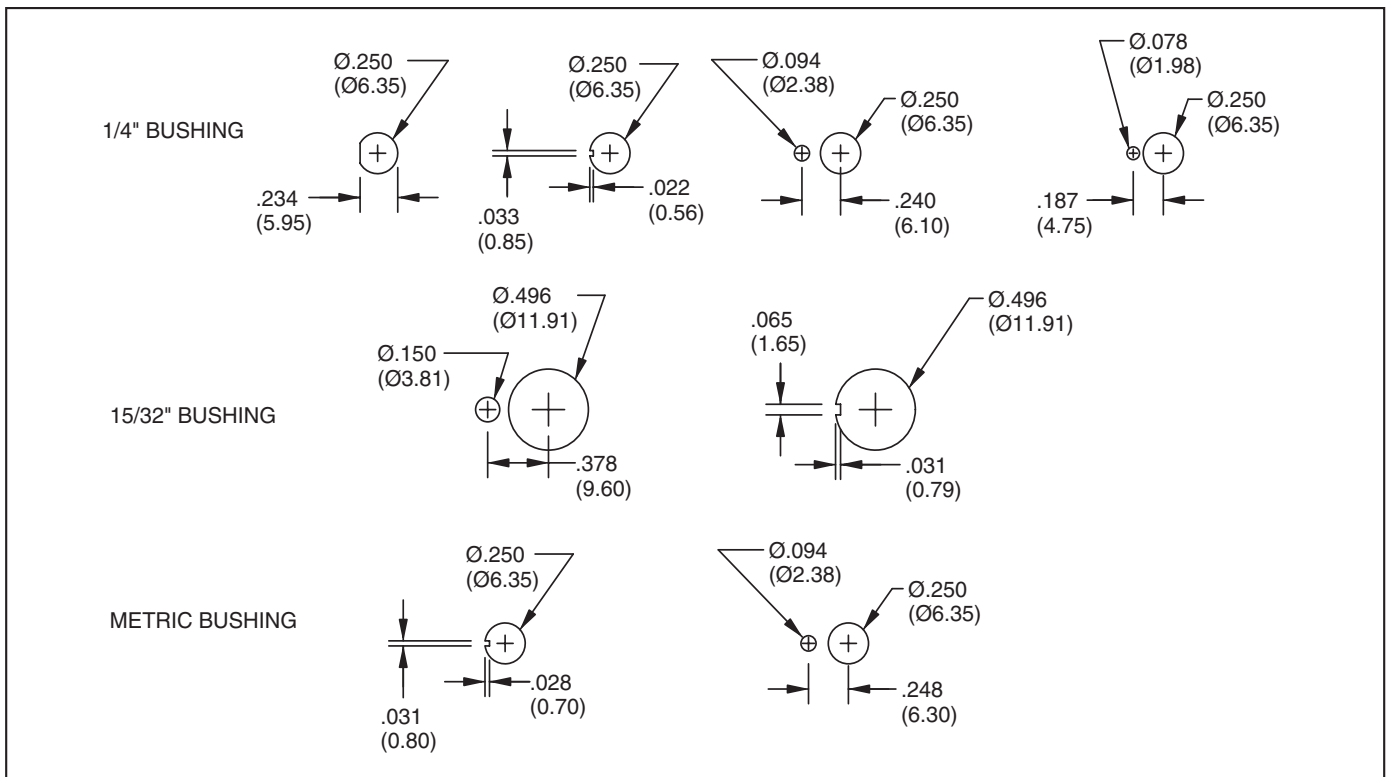
Actuators 1-5 shown with standard B1 bushing. Add .070 (1.78) for B3, subtract .020 (0.51) for B6 bushing.

BUSHING OPTIONS In inches (and millimeters)

<p>B1 Thd (Std) B2 Non-Thd</p>	<p>B3 Thd B4 Non-Thd</p>	<p>B5 High Torque</p>	<p>B6 High Torque</p>	
<p>B7 Long</p>	<p>B8 Metric</p>	<p>B9 Splash-Proof</p>		
<p>T1</p>	<p>T2</p>	<p>T5</p>	<p>T6</p>	<p>T7</p>

Toggle Switches

PANEL MOUNTING In inches (and millimeters)

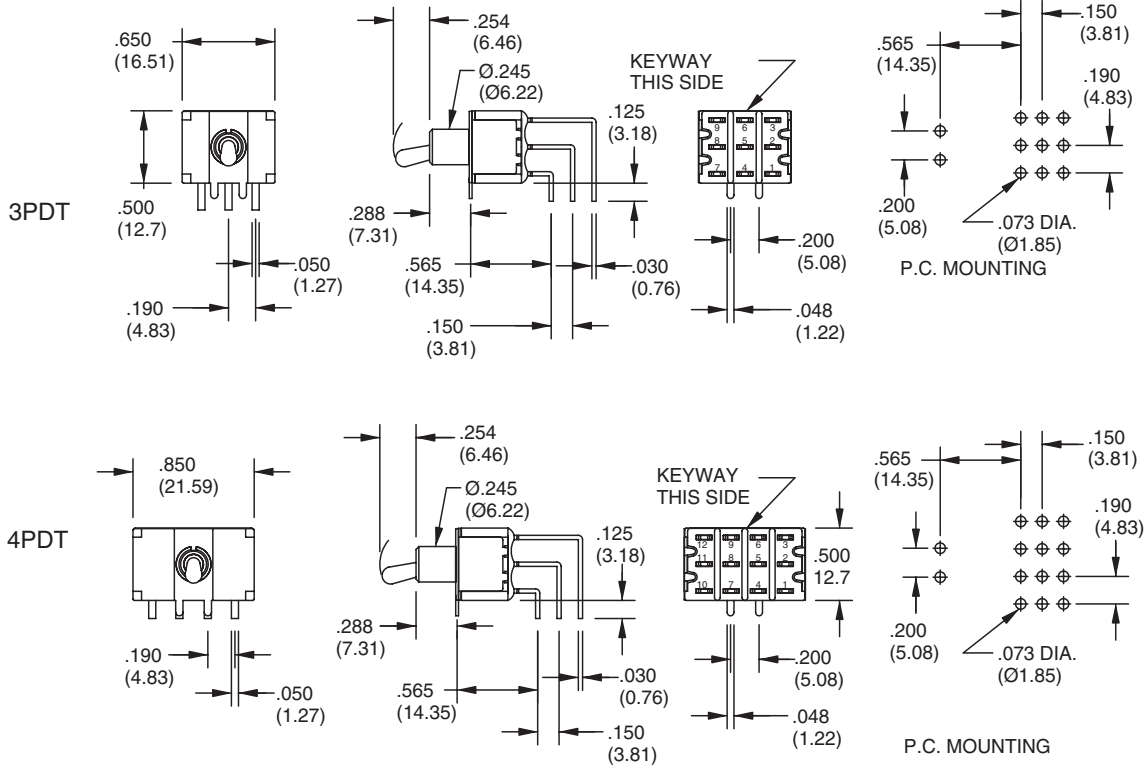


TERMINATION OPTIONS In inches (and millimeters)

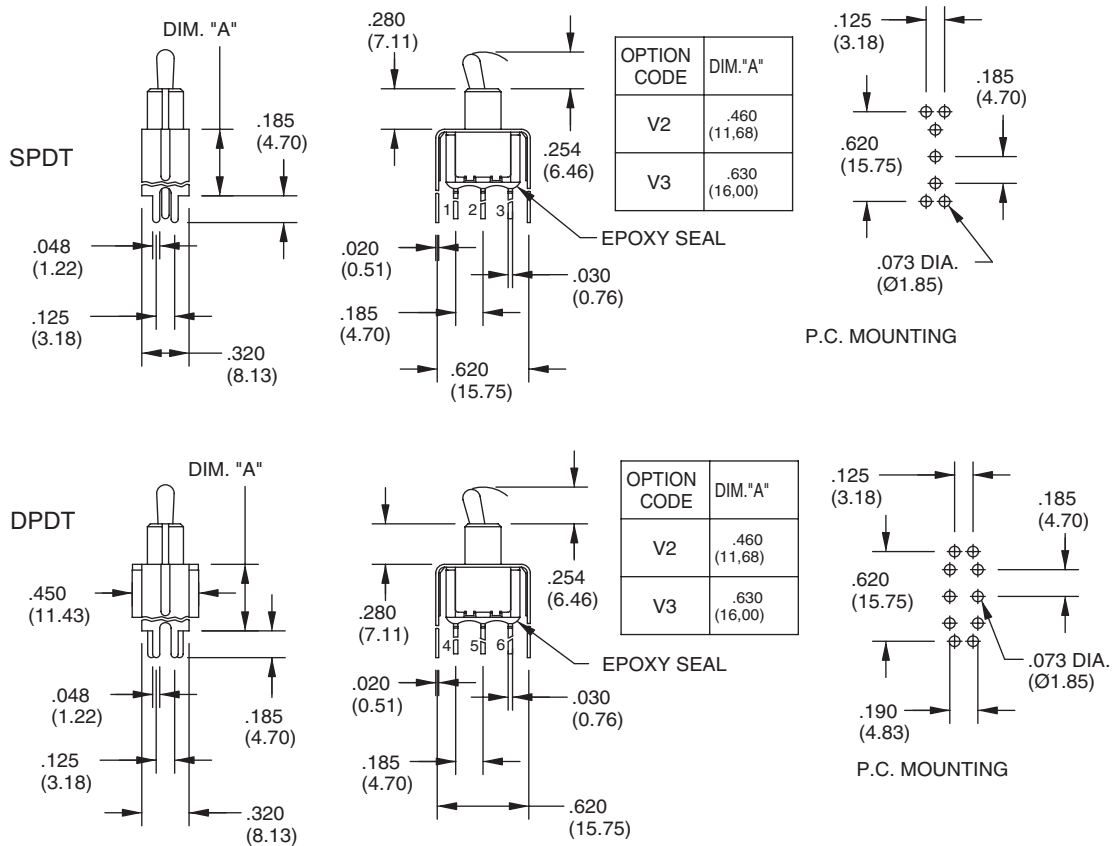
<p>M1 Solder Lug (Std)</p> <p>THK. .030 (0.76)</p>	<p>M2 P.C. Mount</p> <p>THK. .030 (0.76)</p>	<p>M3 P.C. Mount, Quick Connect</p> <p>.030 (0.76) THK.</p>	<p>WX</p> <p>DIM. "A"</p> <table border="1"> <thead> <tr> <th>OPTION CODE</th> <th>DIM. "A"</th> </tr> </thead> <tbody> <tr> <td>W1</td> <td>.750 (19.05)</td> </tr> <tr> <td>W2</td> <td>.964 (24.46)</td> </tr> <tr> <td>W3</td> <td>.425 (10.80)</td> </tr> <tr> <td>W4</td> <td>1.062 (26.97)</td> </tr> </tbody> </table> <p>WIRE WRAP</p>	OPTION CODE	DIM. "A"	W1	.750 (19.05)	W2	.964 (24.46)	W3	.425 (10.80)	W4	1.062 (26.97)
OPTION CODE	DIM. "A"												
W1	.750 (19.05)												
W2	.964 (24.46)												
W3	.425 (10.80)												
W4	1.062 (26.97)												
<p>M6 Right Angle P.C. Mount, Horizontal Actuation</p> <p>SPDT</p> <p>DPDT</p> <p>KEYWAY THIS SIDE</p> <p>P.C. MOUNTING</p>													
<p>M7 Right Angle P.C. Mount, Vertical Actuation</p> <p>SPDT</p> <p>DPDT</p> <p>KEYWAY THIS SIDE</p> <p>P.C. MOUNTING</p>													

TERMINATION OPTIONS In inches (and millimeters)

M7 Right Angle P.C. Mount, Vertical Actuation



V2-V3 Vertical Bracket P.C. Mount



Toggle Switches

SPECIFICATIONS RATINGS

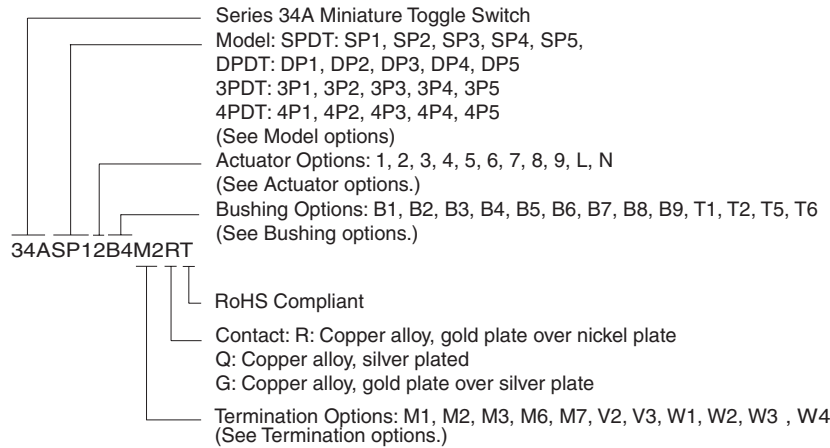
Contact Rating: Q option - 5A with resistive load @ 125VAC or 28 VDC; 2A with resistive load @ 250 VAC. R option-0.4 VA max @ 20 Vmax (AC or DC)
 Electrical Life: 40,000 make-and-break cycles at full load

Contact Resistance: 10 milliohms max. initial @ 2-4 VDC, 100 mA for both gold & silver contacts
 Insulation Resistance: 1,000 megaohms minimum
 Dielectric Strength: 1,000 V RMS @ sea level
 Operating Temperature: -30°C to 85°C
 UL Recognition: File number is E35289

MATERIALS

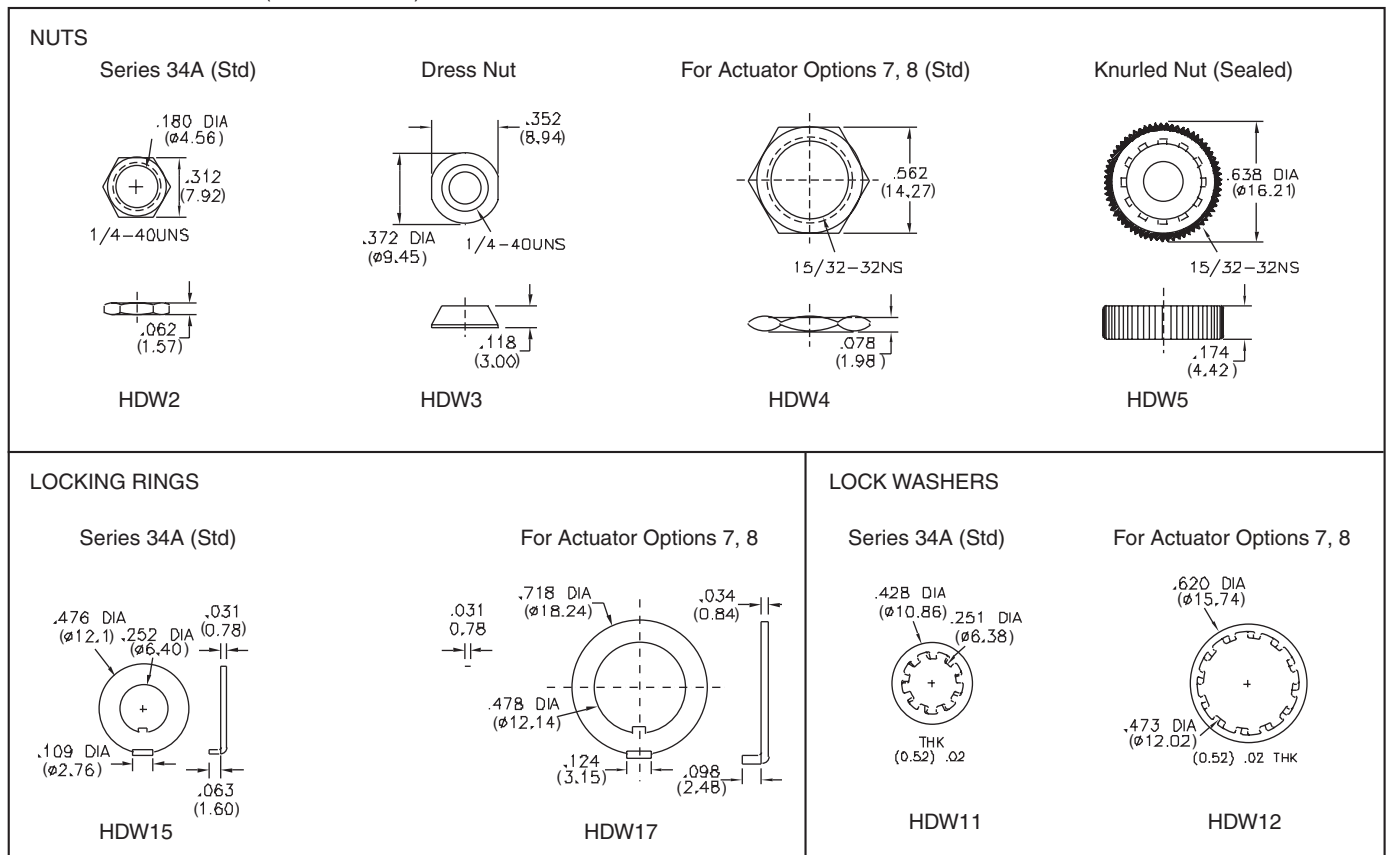
Case: Diallyl phthalate (DAP) (UL94V-0)
 Toggle Handle: Brass, chrome-plated
 Bushing: Brass, nickle-plated
 Housing: Stainless steel

ORDERING INFORMATION



Available from your local Grayhill Component Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

HARDWARE In inches (and millimeters)



SERIES 34B
Sealed Miniature Toggle Switches

FEATURES

- Save Space and Weight
- SPDT, DPDT, and 3PDT Circuitry
- Choice of Actuators, Bushings and Terminations
- Sealed per IP67



MODELS In inches (and millimeters)

SPDT

Model No.	Switching Position		
	↙	↘	↗
WSP1	ON	NONE	ON
WSP2	ON	NONE	(ON)
WSP3	ON	OFF	ON
WSP4	(ON)	OFF	(ON)
WSP5	ON	OFF	(ON)
Term. Comm.	2-3	OPEN	2-1

()=MOMENTARY

SCHEMATIC

DPDT

Model No.	Switching Position		
	↙	↘	↗
WDP1	ON	NONE	ON
WDP2	ON	NONE	(ON)
WDP3	ON	OFF	ON
WDP4	(ON)	OFF	(ON)
WDP5	ON	OFF	(ON)
Term. Comm.	2-3 5-6	OPEN	2-1 5-4

()=MOMENTARY

SCHEMATIC

3PDT

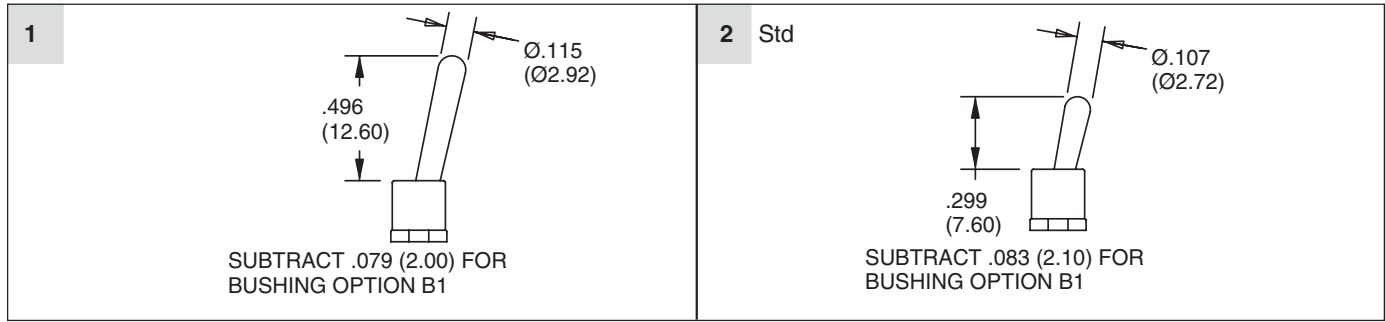
Model No.	Switching Position		
	↙	↘	↗
W3P1	ON	NONE	ON
W3P2	ON	NONE	(ON)
W3P3	ON	OFF	ON
W3P4	(ON)	OFF	(ON)
W3P5	ON	OFF	(ON)
Term. Comm.	2-3 5-6	OPEN	2-1 5-4

()=MOMENTARY

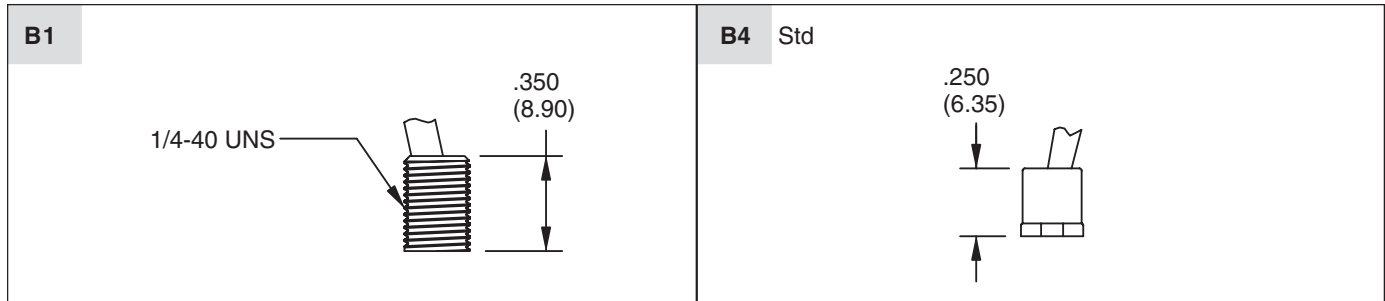
SCHEMATIC

Toggle Switches

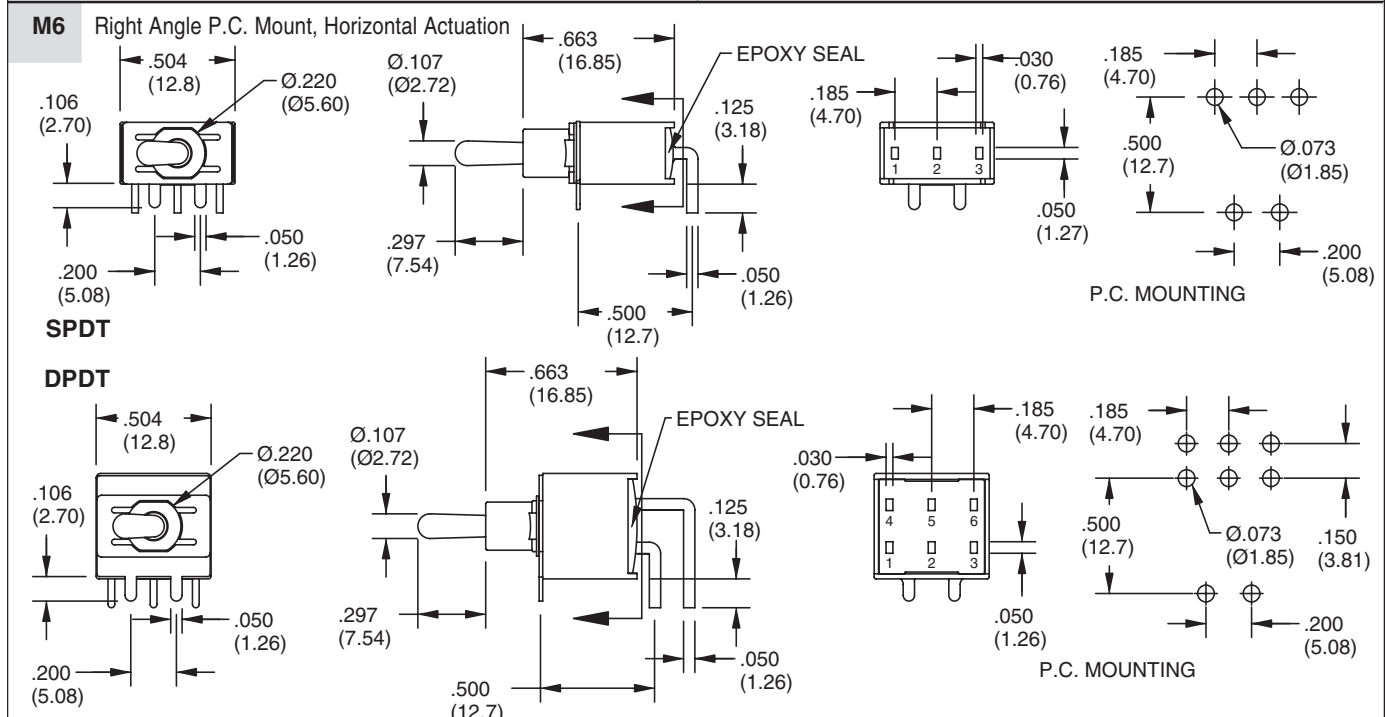
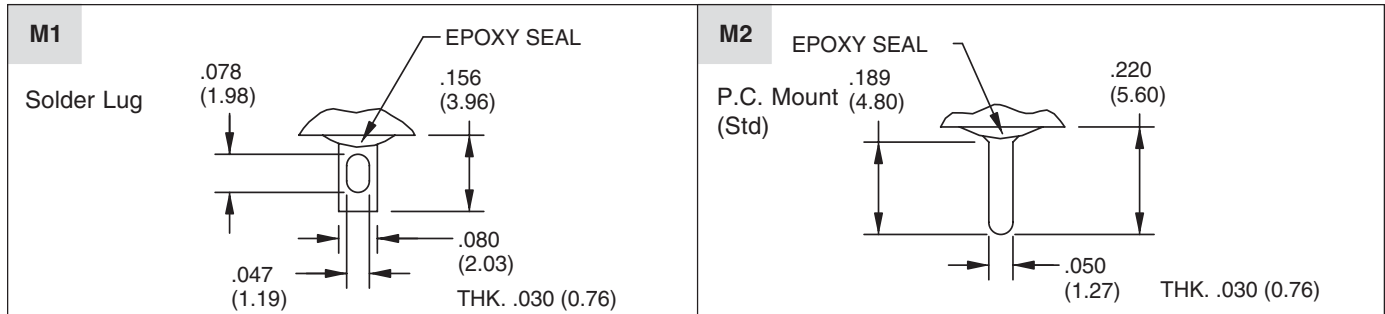
ACTUATOR OPTIONS In inches (and millimeters)



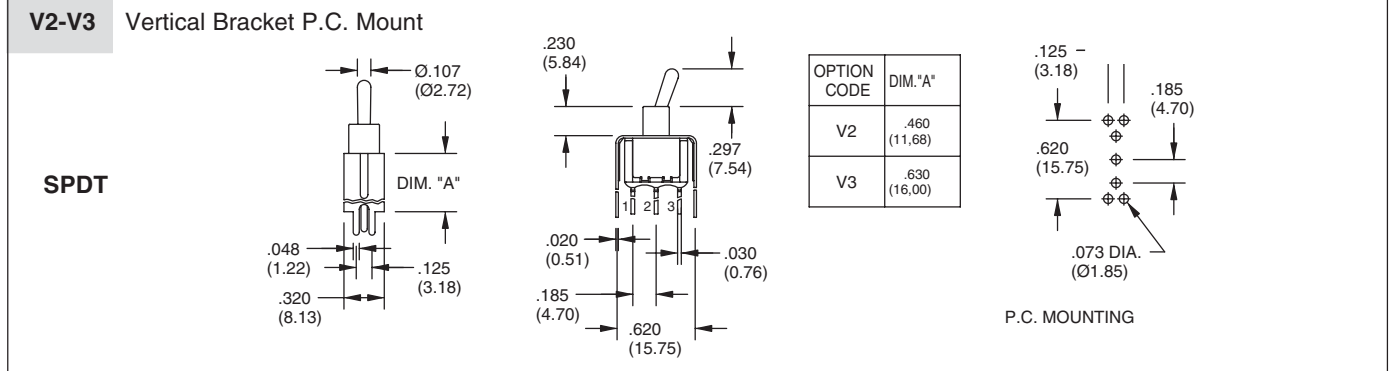
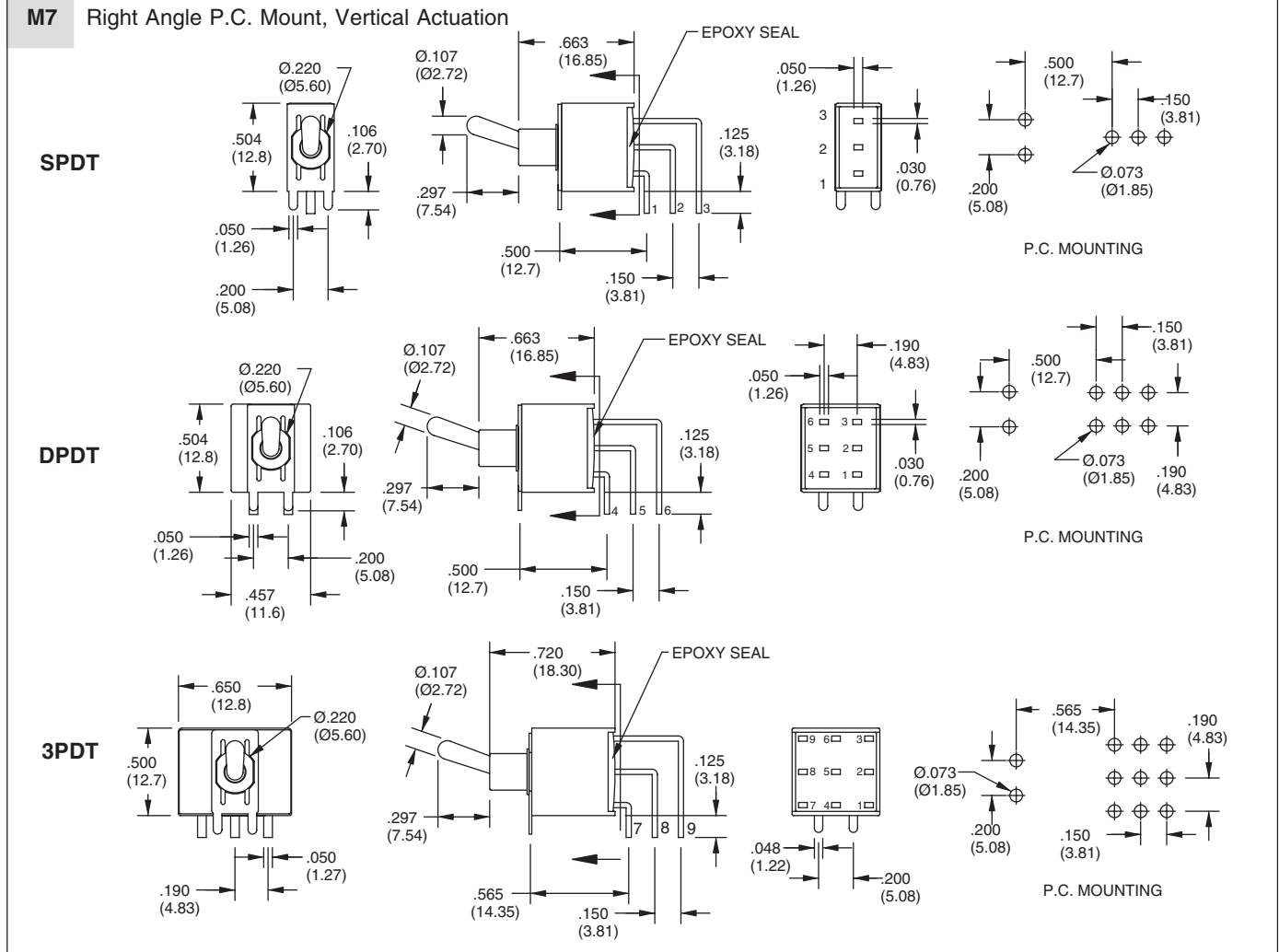
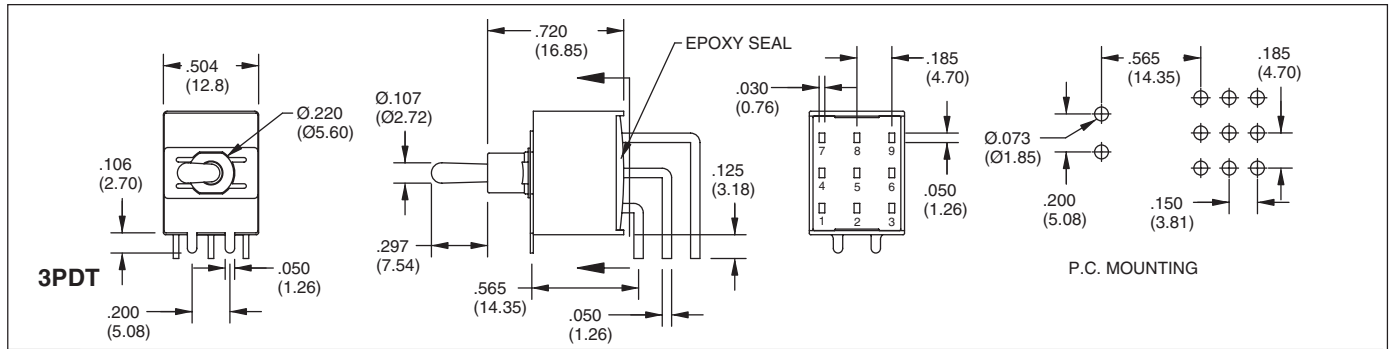
BUSHING OPTIONS In inches (and millimeters)



TERMINATION OPTIONS In inches (and millimeters)

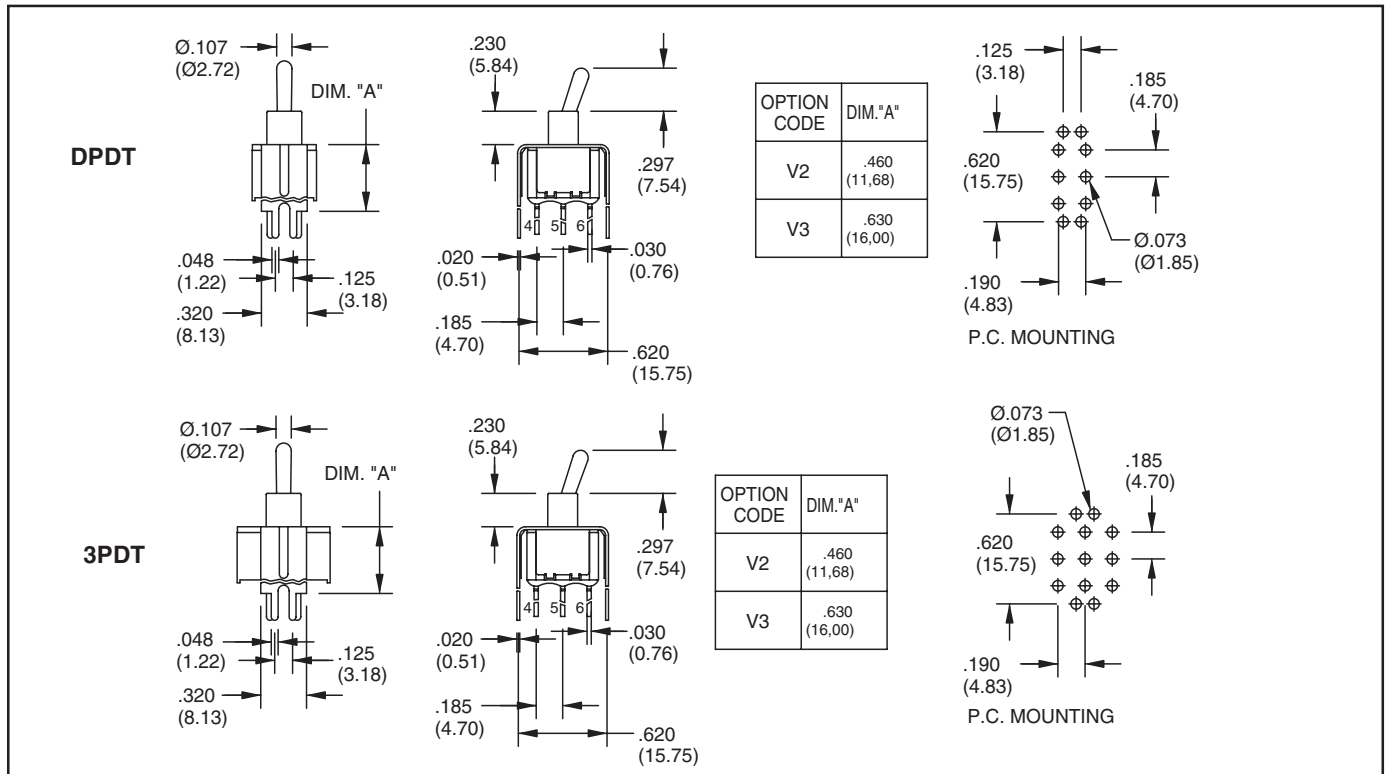


TERMINATION OPTIONS In inches (and millimeters)



Toggle Switches

TERMINATION OPTIONS In inches (and millimeters)



SPECIFICATIONS

RATINGS

Contact Rating: Q option - 5A with resistive load @ 125VAC or 28 VDC; 2A with resistive load @ 250 VAC. R option-0.4 VA max @ 20 Vmax (AC or DC)

Electrical Life: 50,000 make-and-break cycles at full load

Contact Resistance: 10 milliohms max.

initial @ 2-4 VDC, 100 mA

Insulation Resistance: 1,000 megaohms minimum

Dielectric Strength: 1,500 V RMS @ sea level

Operating Temperature: -30°C to 85°C

flame retardant, heat stabilized (UL94V-0)

Actuator: Brass, chrome plated. Internal O-ring seal standard with all actuators.

Frame: Spring steel

Switch Support: Brass, tin-plated

Actuator Pivot & Mounting Bracket: Nylon

Actuator Pivot Retainer: Stainless Steel

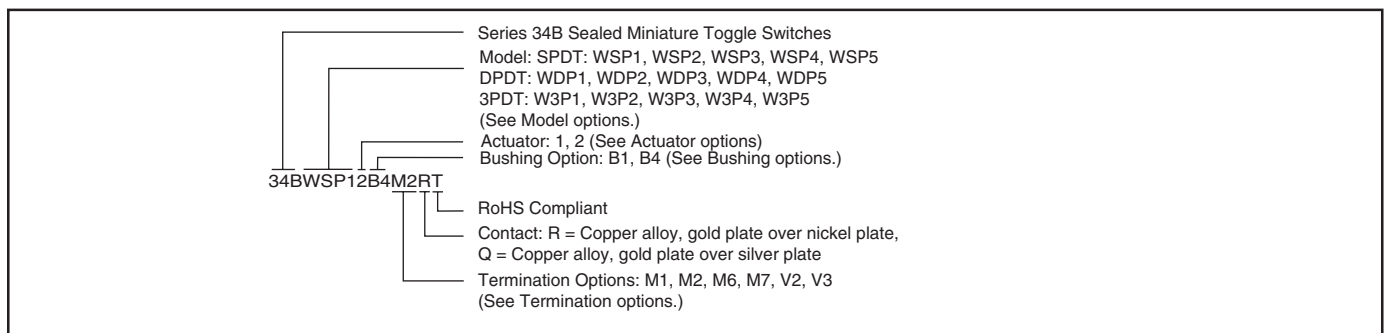
Terminal and Contacts: Copper alloy with plated over nickel or silver plate

Terminal Seal: Epoxy

MATERIALS

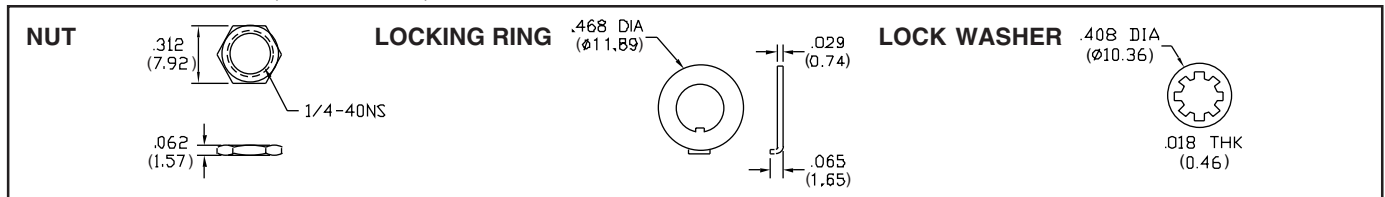
Case and Bushings: Glass-filled nylon 6/6,

ORDERING INFORMATION



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HARDWARE In inches (and millimeters)



SERIES 34C
Sub-Miniature Toggle Switches

FEATURES

- Save Space and Weight
- SPDT and DPDT Circuitry
- Choice of Actuators, Bushings, and Terminations
- UL Recognized

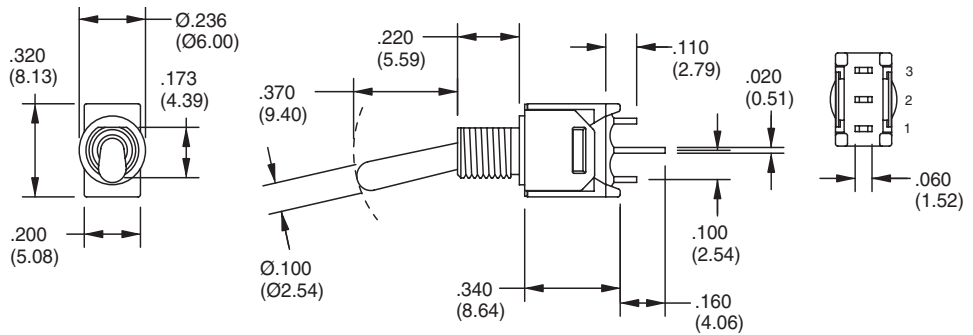


MODELS In inches (and millimeters)

SPDT

MODEL NO.	SWITCH POSITION		
MSP1	ON	NONE	ON
MSP2	ON	NONE	(ON)
MSP3	ON	OFF	ON
MSP4	(ON)	OFF	(ON)
MSP5	ON	OFF	(ON)
TERM. COMM.	2-3	OPEN	2-1

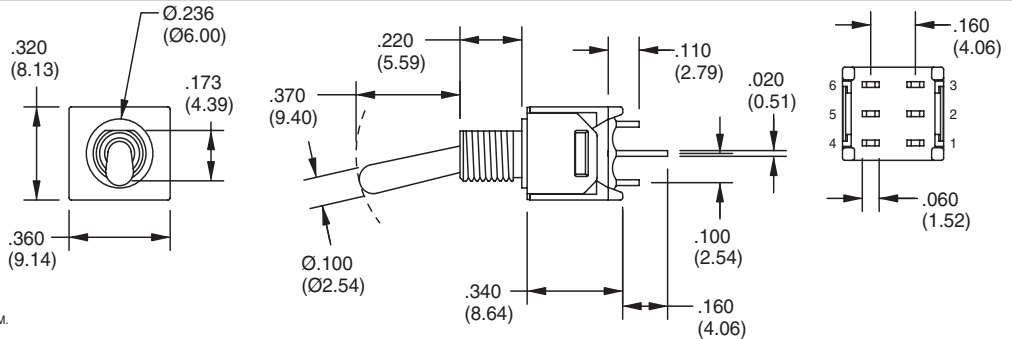
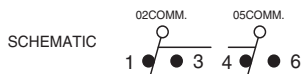
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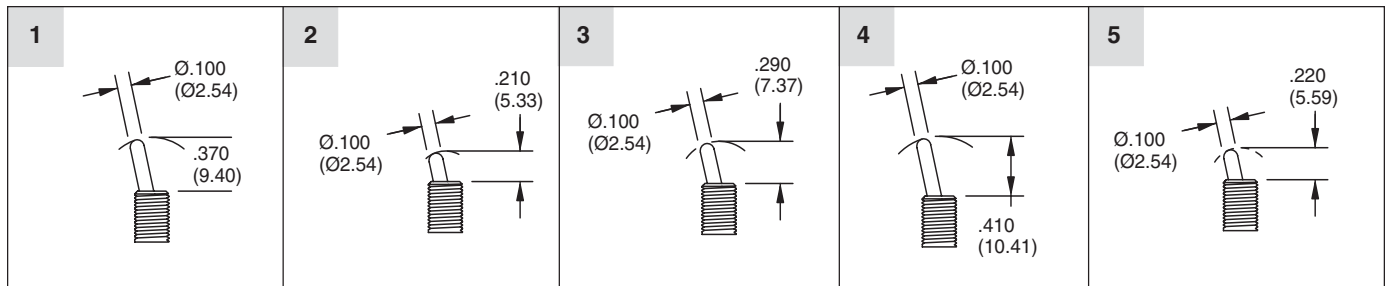
DPDT

MODEL NO.	SWITCH POSITION		
MDP1	ON	NONE	ON
MDP2	ON	NONE	(ON)
MDP3	ON	OFF	ON
MDP4	(ON)	OFF	(ON)
MDP5	ON	OFF	(ON)
TERM. COMM.	2-3, 5-6	OPEN	2-1, 5-4

()=MOMENTARY



ACTUATOR OPTIONS In inches (and millimeters)

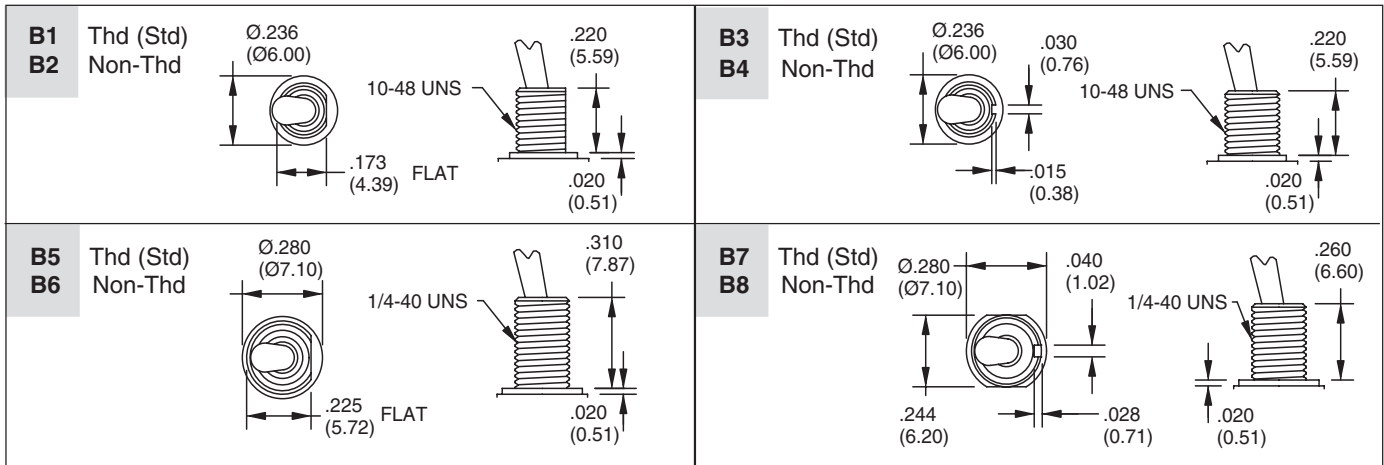


Actuator options 1, 2 and 3 shown with B1 to B4 bushing, subtract 0.90 (2.29) for bushing B5, subtract 0.40 (1.02) for B7 bushing.

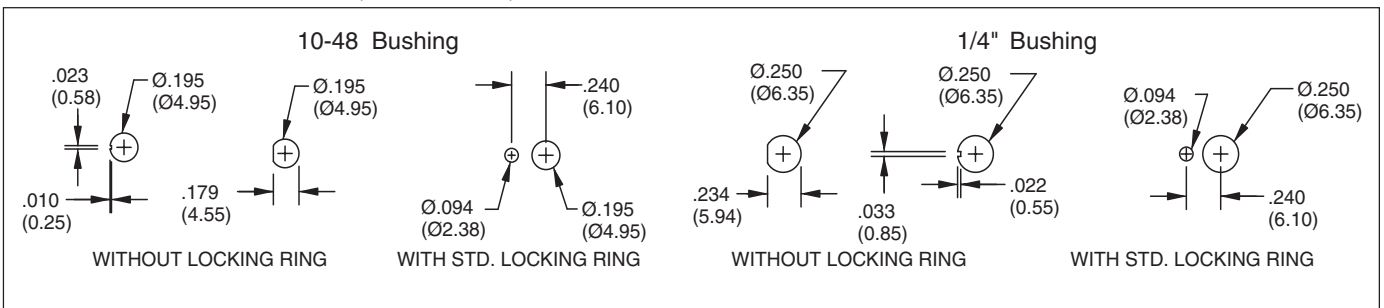
Actuators 4 and 5 shown with B5 and B6 bushing, add 0.90 (2.29) for bushing B1 to B3, add 0.50 (1.27) for B7 bushing.

Toggle Switches

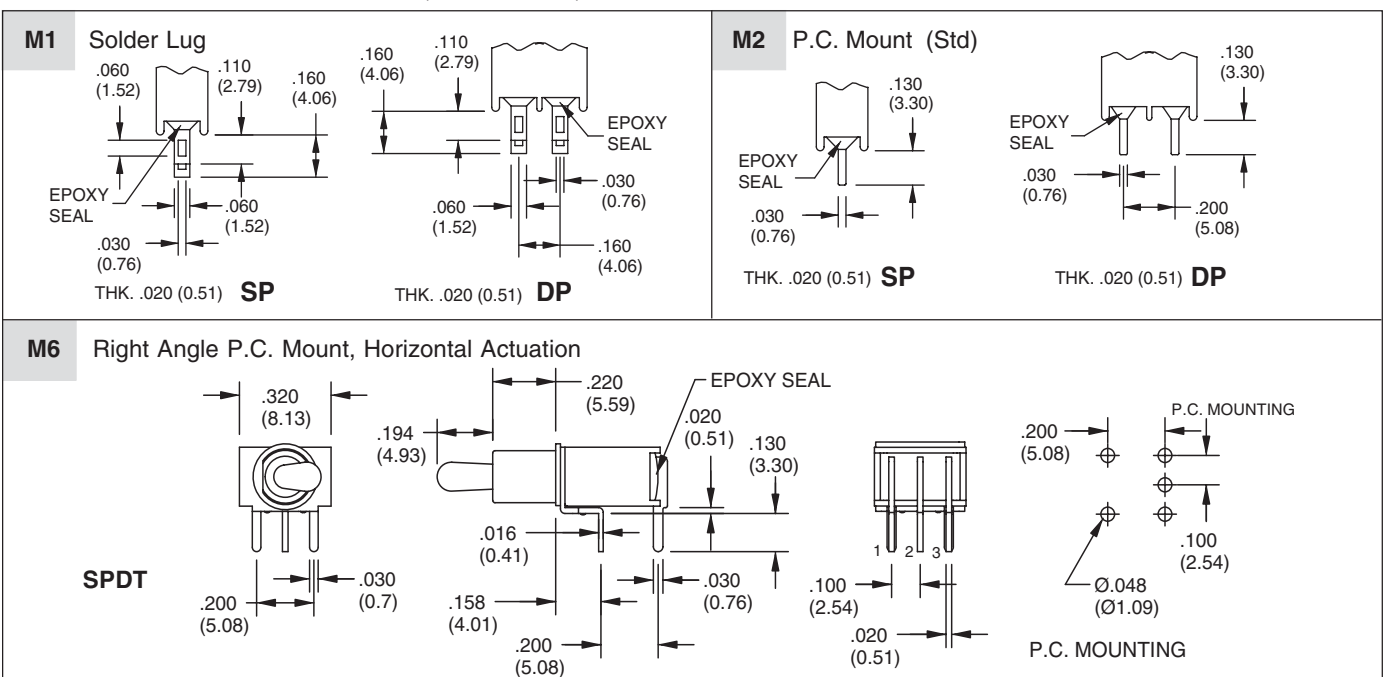
BUSHING OPTIONS In inches (and millimeters)



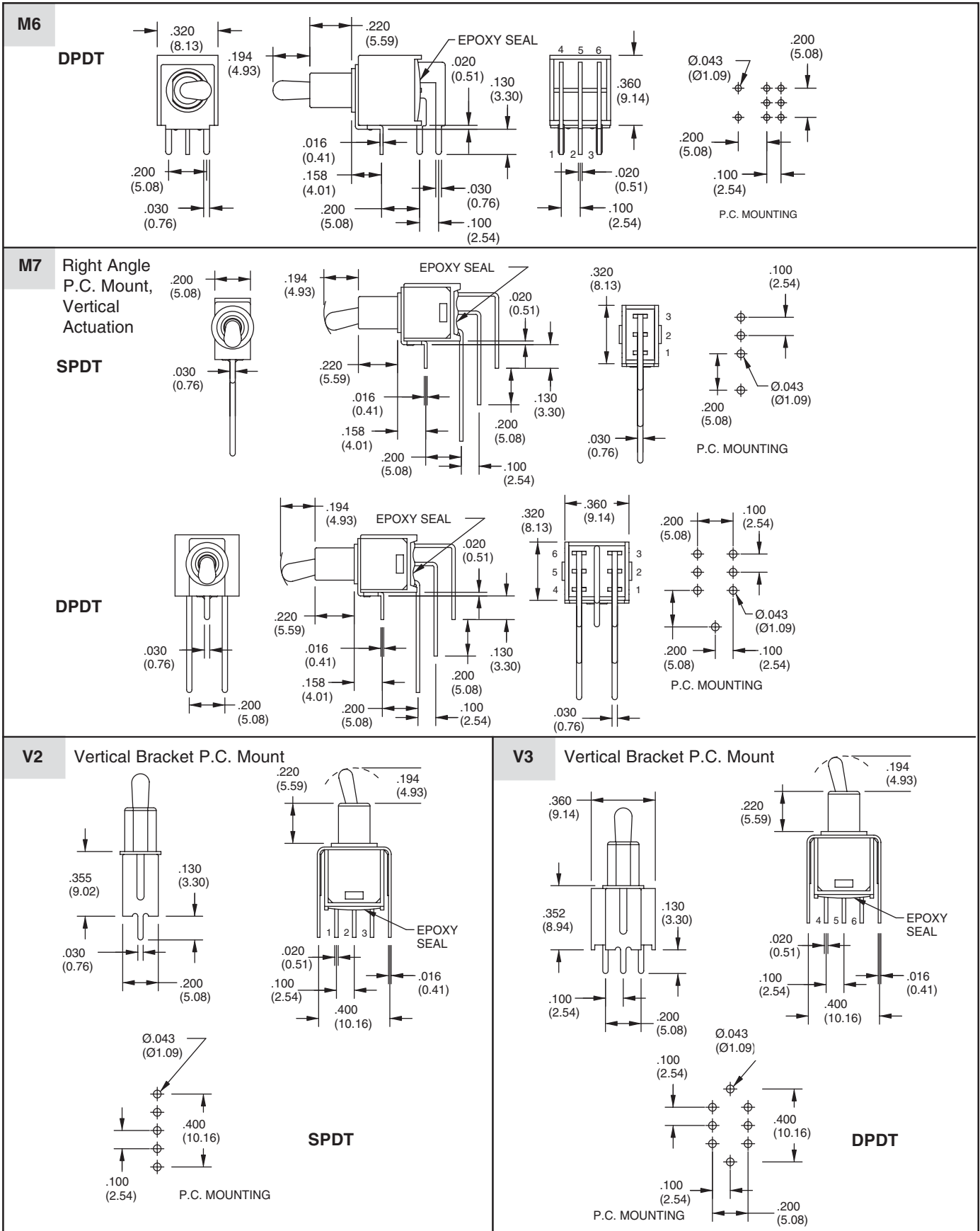
PANEL MOUNTING In inches (and millimeters)



TERMINATION OPTIONS In inches (and millimeters)



TERMINATION OPTIONS In inches (and millimeters)



Toggle Switches

SPECIFICATIONS

RATINGS

Contact Rating: Q option - 3A with resistive load @ 125VAC or 28 VDC; 1.5A with resistive load @ 250 VAC. R option-0.4 VA max @ 20 Vmax (AC or DC)

Electrical Life: 30,000 make-and-break cycles at full load

Contact Resistance: 10 milliohms max. initial @ 2-4 VDC, 100 mA

Insulation Resistance: 1,000 megaohms minimum

Dielectric Strength: 1,000 V RMS @ sea level

Operating Temperature: -30°C to 85°C

UL Recognition: File number is E35289

MATERIALS

Case: Diallyl phthalate (DAP) (UL 94V-0)

Toggle Handle: Brass, chrome plated

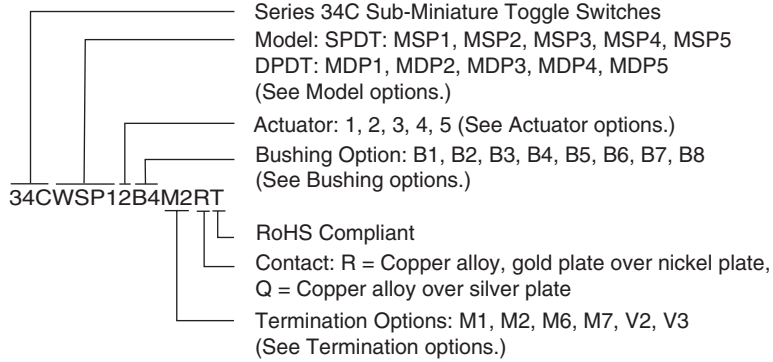
Bushing: Brass, nickel plated

Housing: Stainless steel

Terminal/Switch Support: Brass, electroplated

Terminal Seal: Epoxy

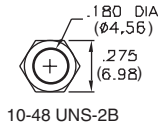
ORDERING INFORMATION



Available from your local Grayhill Component Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

HARDWARE In inches (and millimeters)

NUT

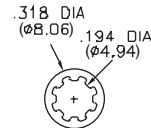


10-48 UNS-2B



HDW21

LOCK WASHER



THK (0.54) .021

HDW22

SERIES 34D
Sealed Sub-Miniature Toggle Switches

FEATURES

- Save Space and Weight
- SPDT and DPDT Circuitry
- Choice of Actuators, Bushings, and Terminations
- Sealed per IP67

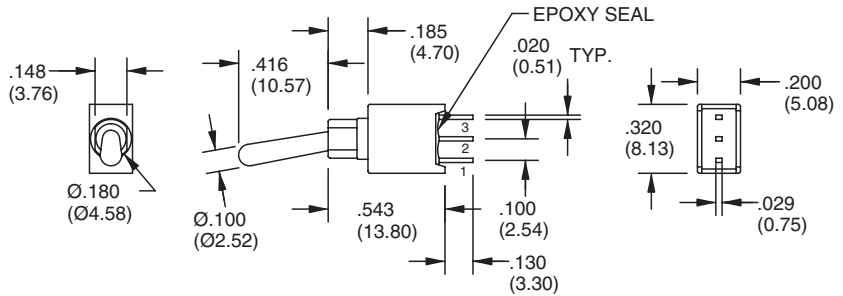


MODELS In inches (and millimeters)

SPDT

Model No.	Switching Position		
WMSP1	ON	NONE	ON
WMSP2	ON	NONE	(ON)
WMSP3	ON	OFF	ON
WMSP4	(ON)	OFF	(ON)
WMSP5	ON	OFF	(ON)
Term. Comm.	2-3	OPEN	2-1

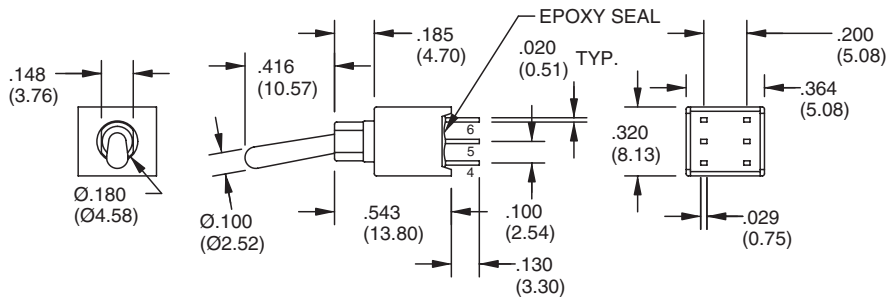
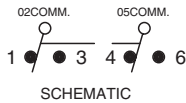
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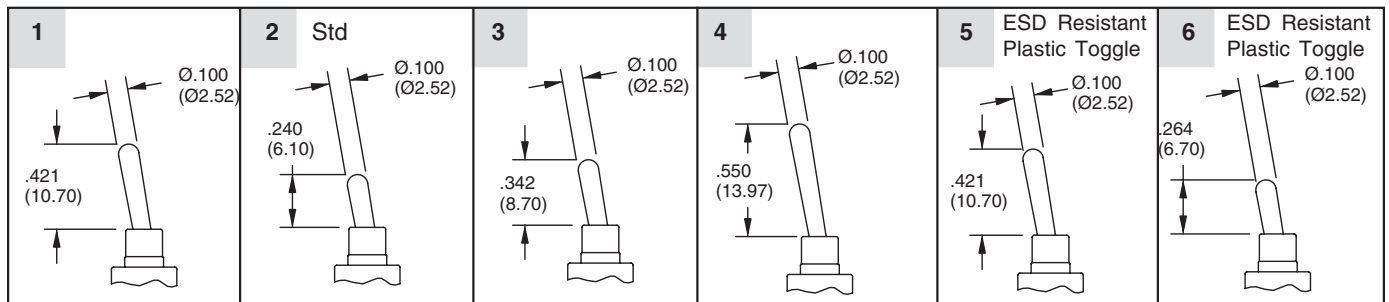
DPDT

Model No.	Switching Position		
WMDP1	ON	NONE	ON
WMDP2	ON	NONE	(ON)
WMDP3	ON	OFF	ON
WMDP4	(ON)	OFF	(ON)
WMDP5	ON	OFF	(ON)
Term. Comm.	2-3 5-6	OPEN	2-1 5-4

()=MOMENTARY

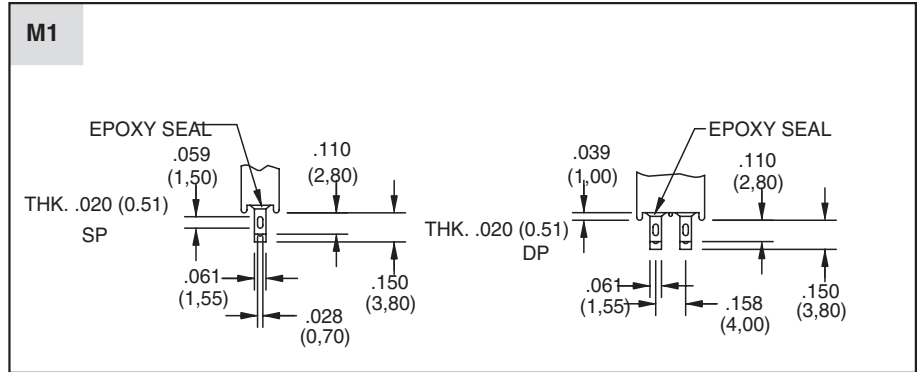
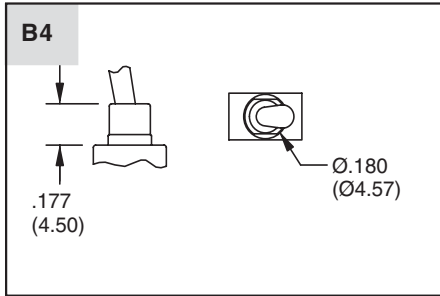


ACTUATOR OPTIONS In inches (and millimeters)



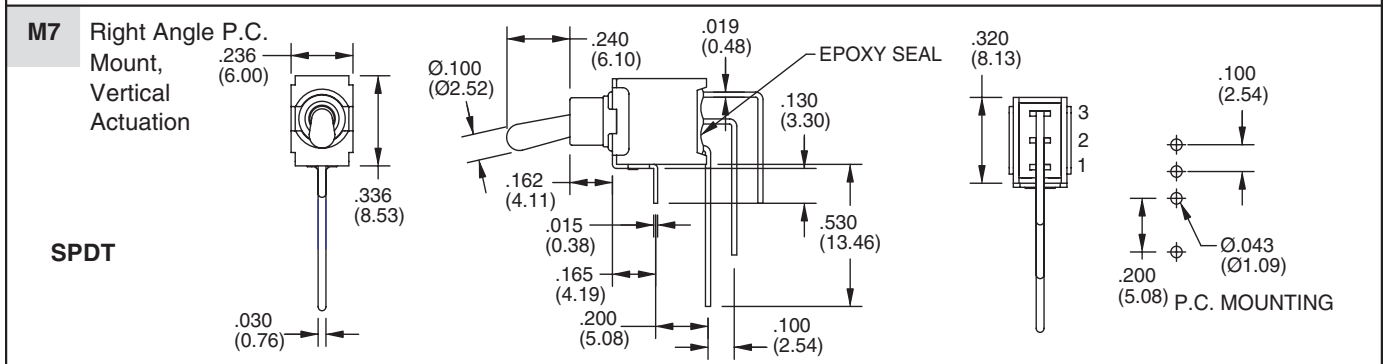
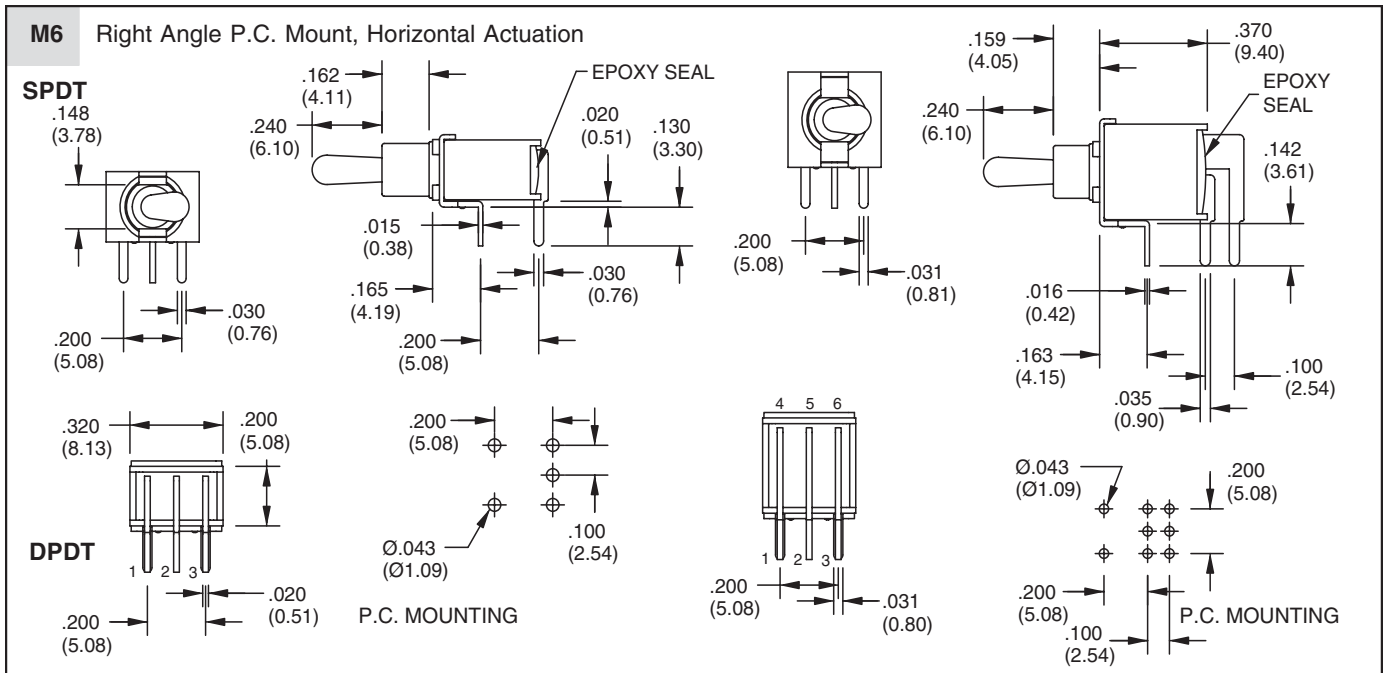
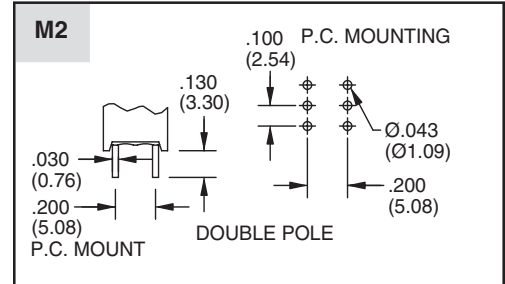
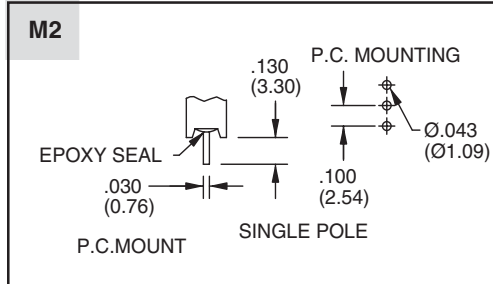
Toggle Switches

BUSHING OPTION In inches (and millimeters)



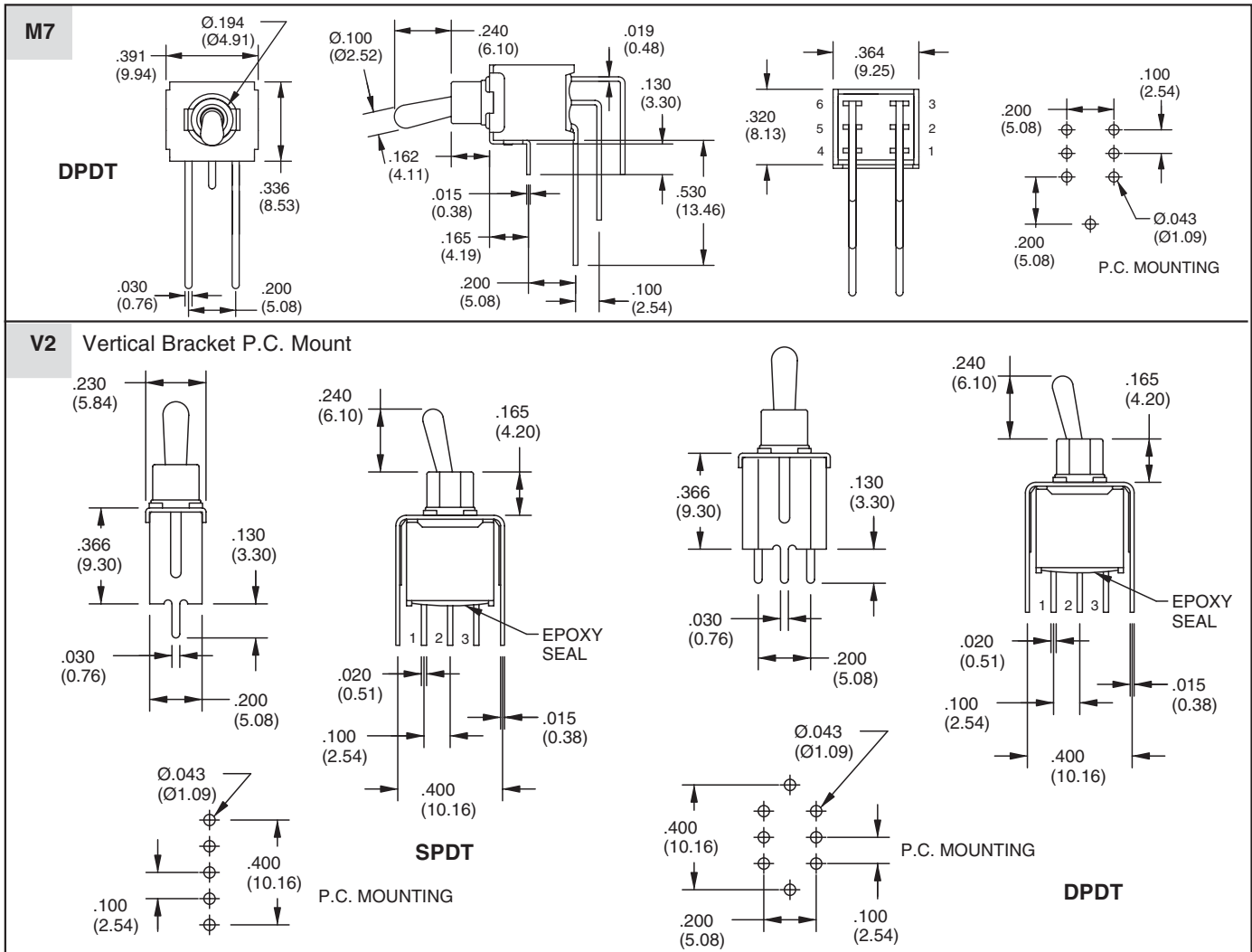
TERMINATION OPTIONS

In inches (and millimeters)



Toggle Switches

TERMINATION OPTIONS In inches (and millimeters)



SPECIFICATIONS

RATINGS

Contact Rating: Q option - 3A with resistive load @ 125VAC or 28 VDC; 1.5A with resistive load @ 250 VAC. R option-0.4 VA max @ 20 Vmax (AC or DC)
Electrical Life: 30,000 make-and-break cycles at full load

Contact Resistance: 20 milliohms max. initial @ 2-4 VDC, 100 mA

Insulation Resistance: 1,000 megaohms minimum

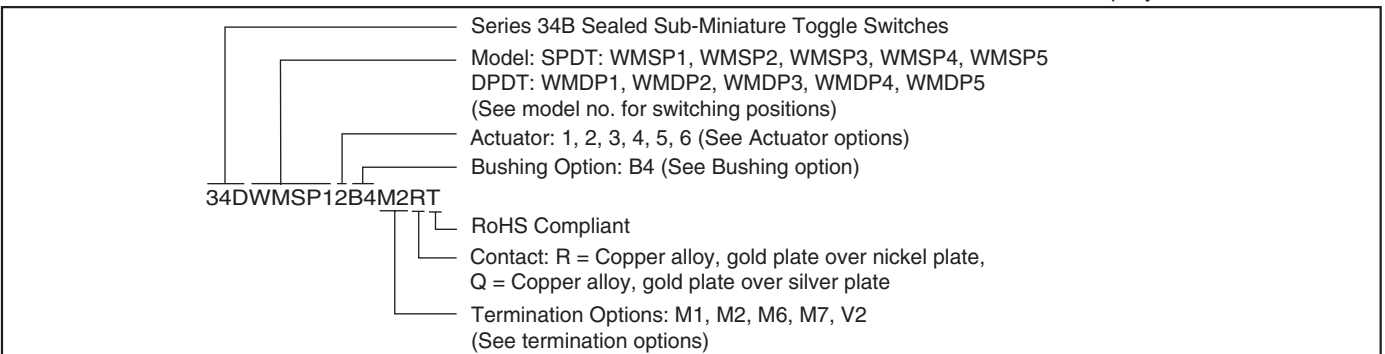
Dielectric Strength: 1,500 V RMS @ sea level

Operating Temperature: -30°C to 85°C

MATERIALS

Case: Diallyl phthalate (DAP) (UL94V-0)
Toggle Handle: Brass, chrome plated
Bushing: Brass, nickel plated
Housing: Stainless steel
Terminal/Switch Support: Brass, electroplated
Contacts & Terminals: Copper alloy, gold plate over nickel plate or silver plate
Terminal Seal: Epoxy

ORDERING INFORMATION



Available from your local Grayhill Component Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

Toggle Switches

SERIES 34E
Sealed Surface Mount Toggle Switches

FEATURES

- Save Space and Weight
- SPDT Circuitry
- Choice of Actuators and Terminations
- Sealed per IP67



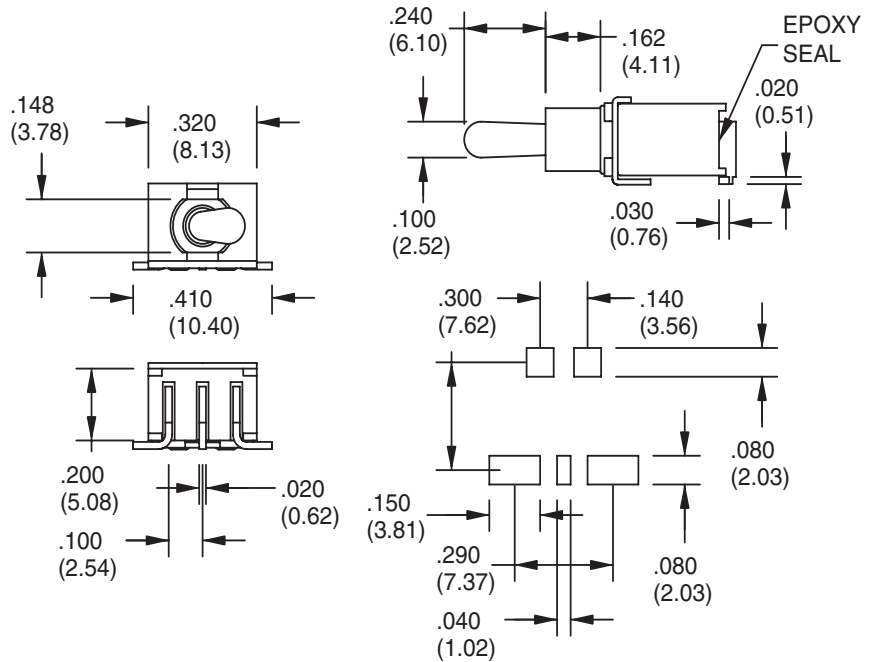
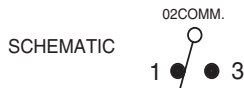
MODELS In inches (and millimeters)

M6

SPDT

MODEL NO.	SWITCH POSITION		
WMSP1	ON	NONE	ON
WMSP2	ON	NONE	(ON)
WMSP3	ON	OFF	ON
WMSP4	(ON)	OFF	(ON)
WMSP5	ON	OFF	(ON)
TERM. COMM.	2-3	OPEN	2-1

()=MOMENTARY

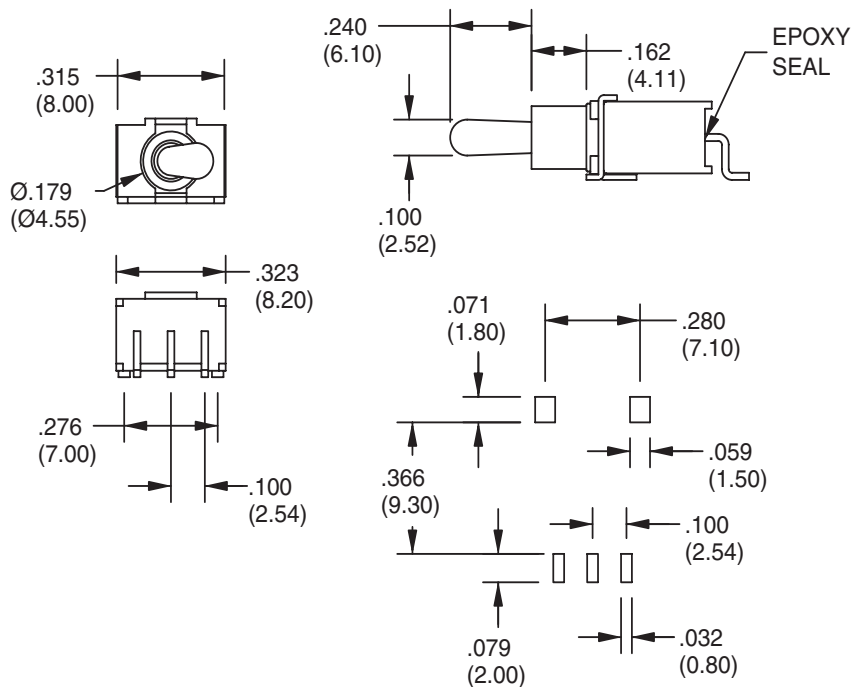
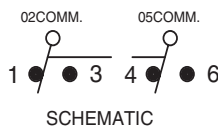


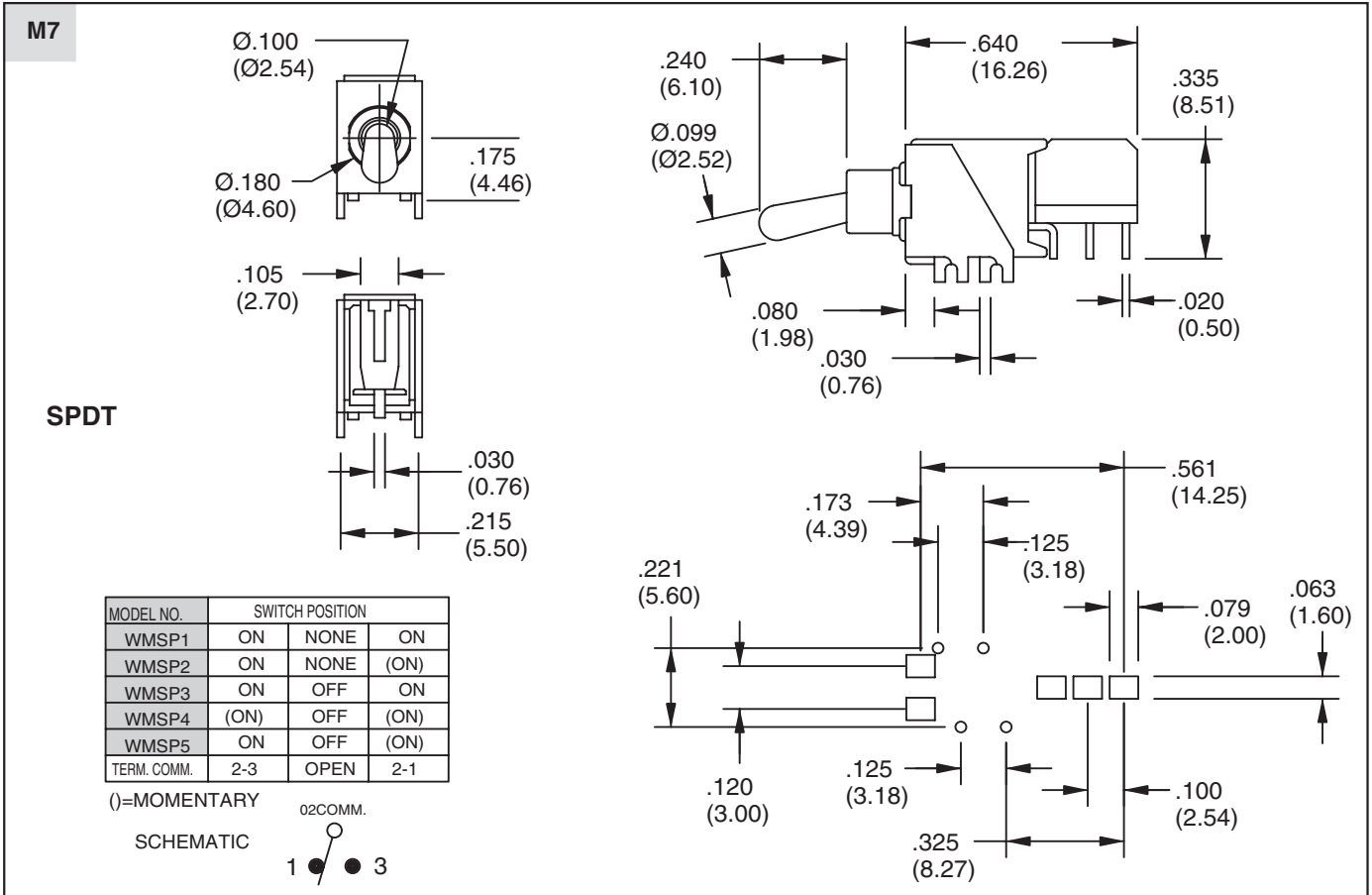
S6

SPDT

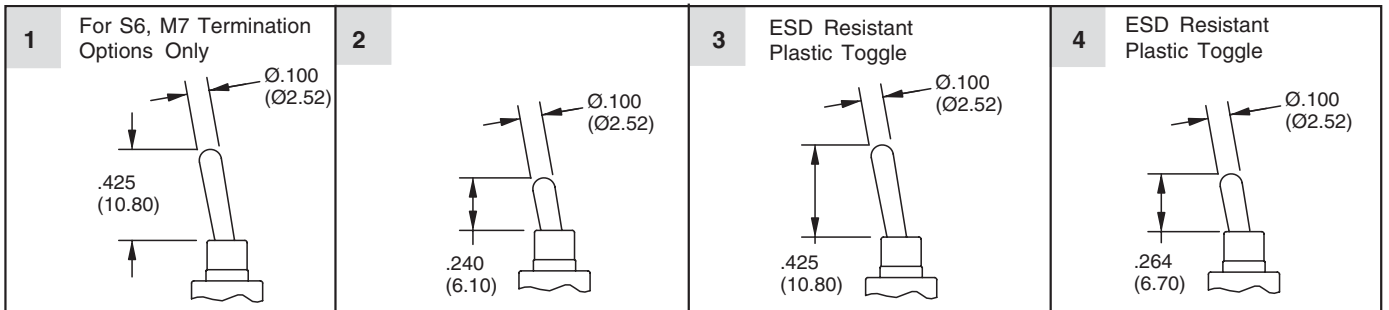
MODEL NO.	SWITCH POSITION		
WMSP1	ON	NONE	ON
WMSP2	ON	NONE	(ON)
WMSP3	ON	OFF	ON
WMSP4	(ON)	OFF	(ON)
WMSP5	ON	OFF	(ON)
TERM. COMM.	2-3	OPEN	2-1

()=MOMENTARY

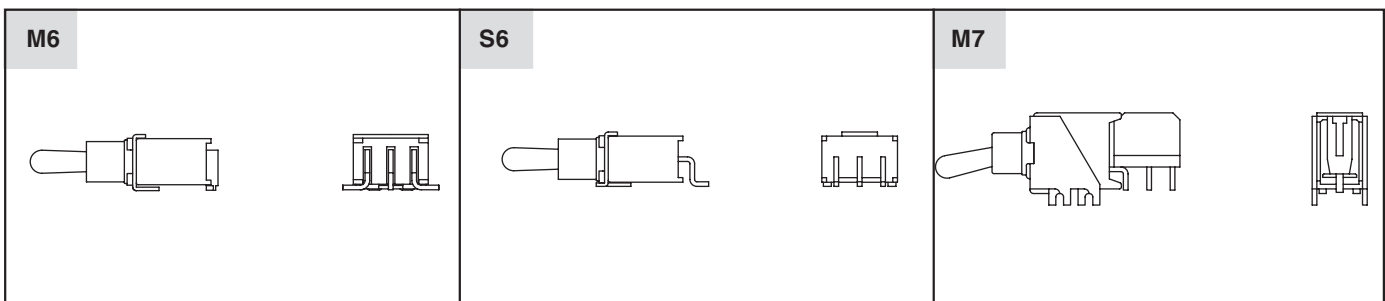




ACTUATOR OPTIONS In inches (and millimeters)

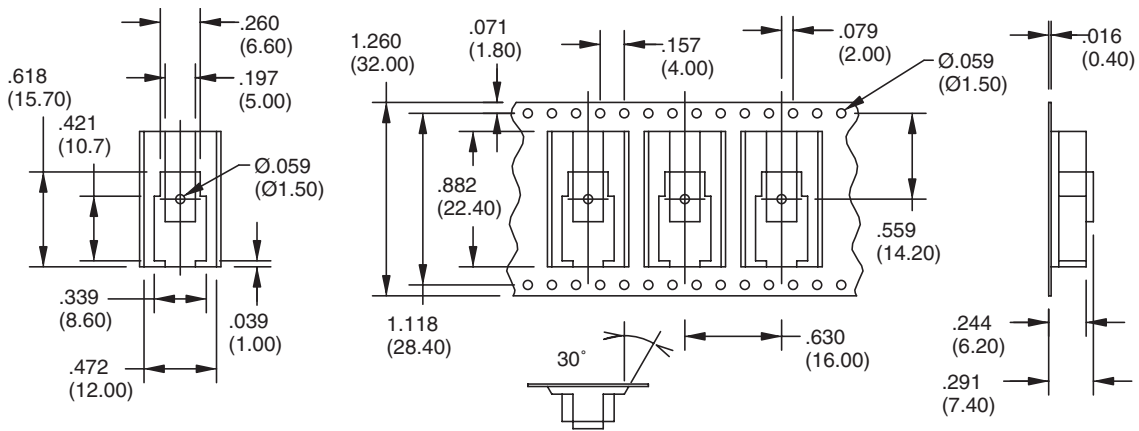


TERMINATION OPTIONS

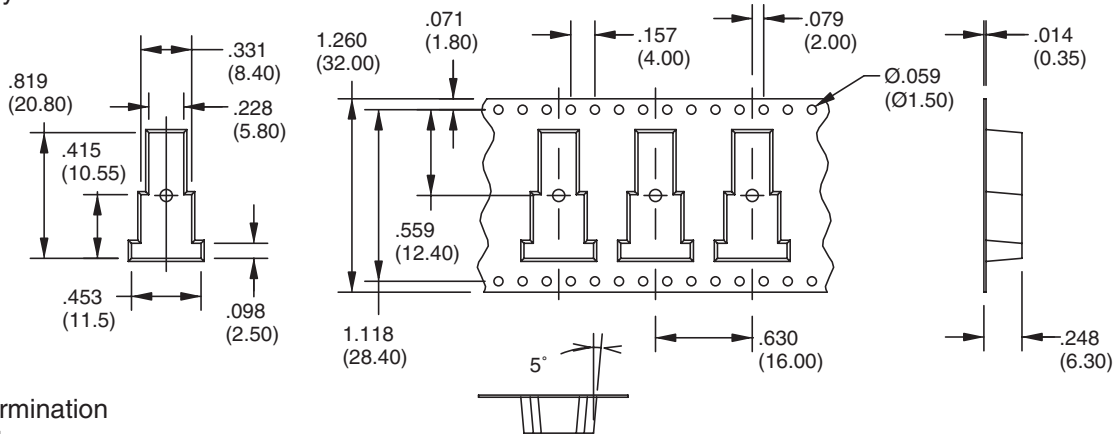


TAPE AND REEL PACKAGING In inches (and millimeters)

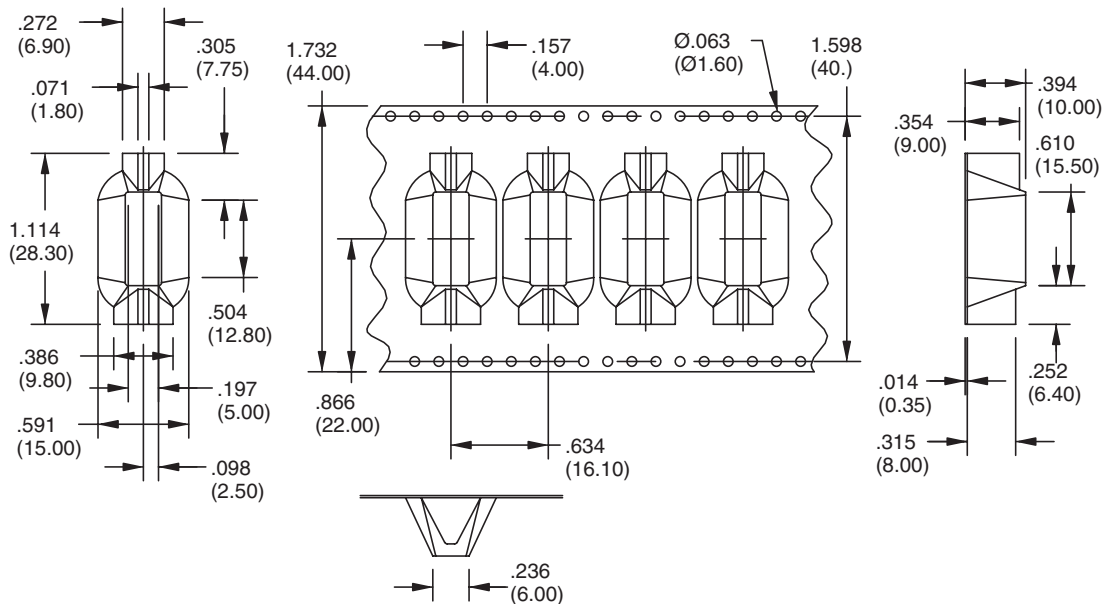
For M6 Termination
Option Only



For S6 Termination
Option Only



For M7 Termination
Option Only



SPECIFICATIONS

RATINGS

Contact Rating: 0.4 VA max. @ 20V max. (AC or DC)

Mechanical and Electrical Life: 30,000 make-and-break cycles at full load

Contact Resistance: 20 milliohms max. typ. initial @ 2-4 VDC, 100 mA

Insulation Resistance: 1,000 megaohms minimum

Dielectric Strength: 1,500 V RMS @ sea level

Operating Temperature: -30°C to 85°C

MATERIALS

Case and Bushings: Glass-filled nylon 4/6,

flame retardant, heat stabilized (UL94V-0)

Actuator: Brass, chrome plated

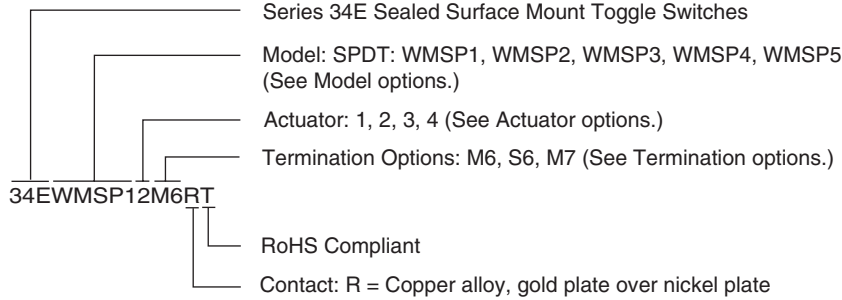
Contacts: Copper alloy, gold plate over nickel plate

Terminals: Copper alloy, tin plate over nickel plate

Terminal Seal: Epoxy

Tape and Reel: 500 pcs/per reel

ORDERING INFORMATION



Available from your local Grayhill Component Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

Toggle Switches