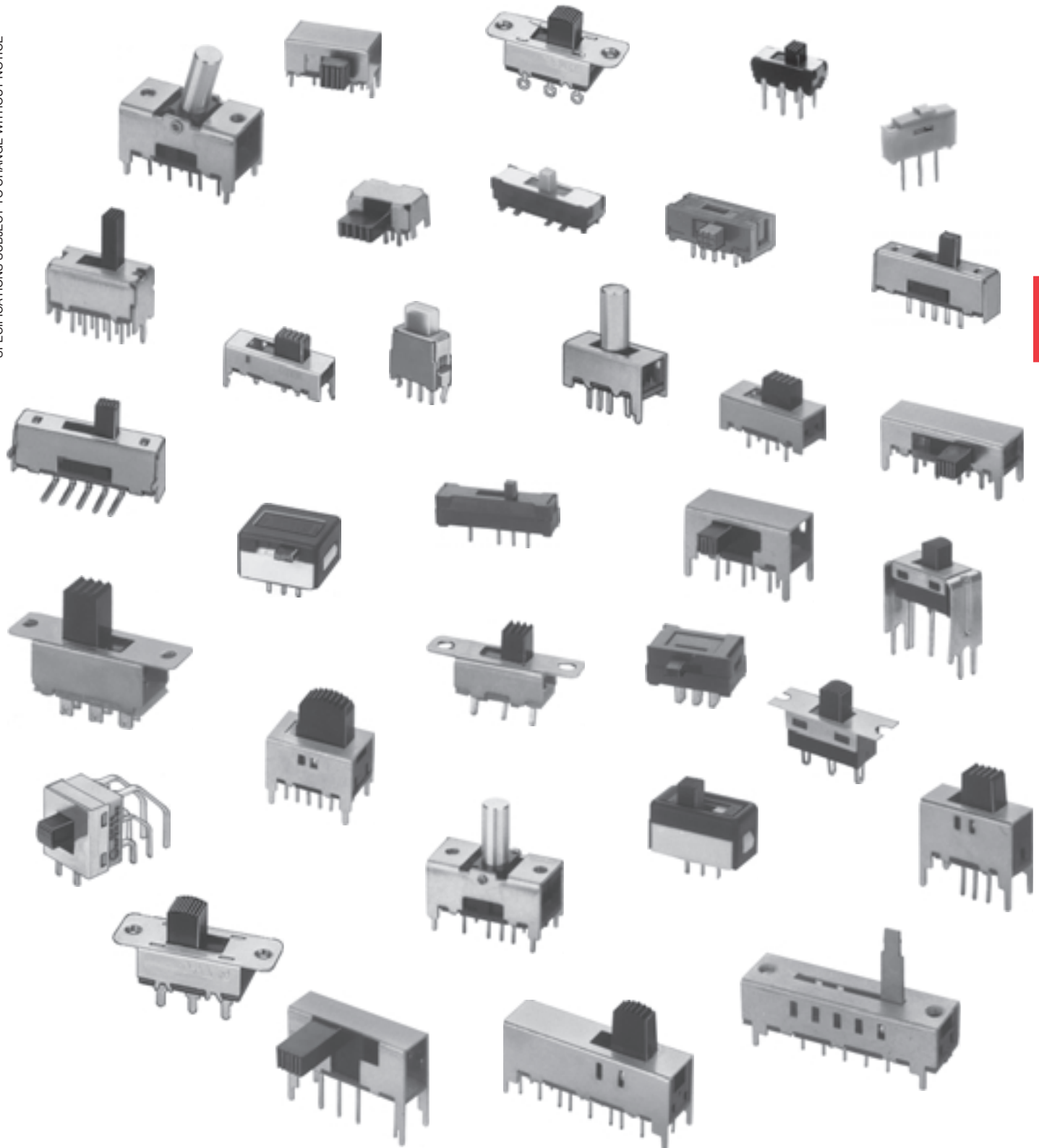


SLIDE SWITCHES

SEE PUSHBUTTON SWITCH SELECTION GUIDE ON NEXT PAGE

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



E

SLIDE SWITCHES

SLIDE SWITCH SELECTION GUIDE: This catalog contains an extensive variety of slide switches with numerous options and accessories. To facilitate easy selection of the desired switch for your application, the guide on pages E2 & E3 lists the various Series with some key selection parameters.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

E

MICROMINIATURE SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
TG (SMT)	1	2&3	0.4 VA @ 20V	Yes	60,000	Surface	Vertical	E4-E7
MJS	1&2	2&3	100 ma @ 12VDC	No	10,000	P.C. thru-hole	Vert. & rt. angle	E8-E9
MSSA & MSSB	2	2	100 ma @ 30VDC or 125VAC & dry circuit	No	10,000	P.C. thru-hole	Vert. & rt. angle	E10
MA	1	2&3	300 ma @ 4VDC	No	10,000	Surface	Rt. angle	E11
MHSS	1&2	2	300 ma @ 6VDC	No	5000	P.C. thru-hole	Vert. & rt. angle	E12
MS	1,2&4	2&3	300 ma @ 6VDC	No	10,000	P.C. thru-hole & surface	Vert. & rt. angle	E13-E15
MMPS <i>New!</i>	1	2&3	300 ma @ 4VDC	No	10,000	Surface	Right angle	E15
MMS	1,2,4&6	2&3	300 ma @ 30VDC	No	10,000	P.C. thru-hole	Vert. & rt. angle	E16-E17
TG	1	2&3	500 ma @ 48V (AC or DC) & dry circuit	Some	30,000 & 60,000	P.C. thru-hole	Vert. & rt. angle	E18-E20
NK	1	2	500 ma @ 12V	No	1000	P.C. thru-hole	Vertical	E21
MINIATURE SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
MSTS	1&2	3	300 ma @ 28VDC	Yes	10,000	P.C. thru-hole	Vertical	E22
MHS <i>New!</i>	1&2	2&3	300 ma @ 30VDC	Yes	10,000	P.C. thru-hole	Vertical	E23-E26
SLB	1&2	2,3,4&5	300 ma @ 30VDC or 125 VAC	Yes	10,000	P.C. thru-hole	Vert. & rt. angle	E27-E34
SLC	1&2	2	300 ma @ 30VDC or 125 VAC	Yes	10,000	Panel	Vertical	E35
SLG	1	2	300 ma @ 30VDC or 125 VAC	Yes	10,000	P.C. thru-hole & panel	Vertical	E36
SLA	1&2	2	500 ma @ 125VAC	Yes	10,000	P.C. thru-hole & panel	Vertical	E37-E38
SLE	1&2	2	500 ma @ 125VAC	Yes	10,000	P.C. thru-hole & panel	Vertical	E38-E39
G	1&2	2&3	4 amps @ 125VAC, 2 amps @ 250 VAC or 3 amps @ 30 VDC & dry circuit	No	20,000 - 60,000	P.C. thru-hole & panel	Vert. & rt. angle	E40-E44
25000N	1&2	2&3	4 amps @ 125 VAC, 2 amps @ 250 VAC or 3 amps @ 30 VDC & dry circuit	No	10,000 - 20,000	P.C. thru-hole	Vert. & rt. angle	E45-E49
STANDARD SIZE SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
MSS	1,2&4	2,3&4	300 ma @ 30VDC or 125 VAC & dry circuit	Yes	10,000	P.C. thru-hole	Vert. & rt. angle	E50-E52
M	1,2,4, 6&8	2&3	300 ma @30VDC or 125 VAC	Yes	10,000	P.C. thru-hole	Vert. & rt. angle	E53-E57
PM	1&2	2	6 amps @ 125 VAC or 3 amps @ 250 VAC	Yes	10,000	Panel	Vertical	E58

SLIDE SWITCHES

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLIDE SWITCH SELECTION GUIDE (CONT'D.)

MINIATURE PUSHBUTTON STYLE SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
MPS	PB-1 SL-1	PB-1 SL-3	PB - 0.4 VA @ 20 V max. Slide - 300 ma @ 30VDC/125VAC	No	100,000	P.C. thru-hole	Rt. angle	E59
SINGLE POLE MULTI-POSITION SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
MSL	1	3,5&6	200 ma @ 30VDC/125VAC	Yes	10,000	P.C. thru-hole	Vertical	E60
BATON TOGGLE STYLE SLIDE SWITCHES								
SERIES	POLES	POS- ITIONS	RATINGS	WASH- ABLE	LIFE CYCLES	MOUNTING	ACTUATION	PAGE(S)
MBT	2,4&6	2,3&4	300 ma @ 30VDC/125VAC	Yes	10,000	P.C. thru-hole	Toggle	E61-E63

E

ALPHA-NUMERIC INDEX BY SERIES

SERIES	Page (s)	SERIES	Page (s)
G	E40 - E44	MSSA	E10
M	E53 - E57	MSSB	E10
MA	E11	MSTS	E22
MBT	E61 - E63	NK	E21
MHS	E23 - E26	PM	E58
MHSS	E12	SLA	E37 - E38
MMPS	E15	SLB	E27 - E34
MJS	E8 - E9	SLC	E35
MMS	E16 - E17	SLE	E38 - E39
MPS	E59	SLG	E36
MS	E13 - E15	25000N	E45 - E49
MSL	E60	TG	E18 - E20
MSS	E50 - E52	TG (SMT)	E4 - E7

TG SERIES - SMT WASHABLE TINY SLIDE SWITCHES

DESIGNED EXCLUSIVELY FOR SURFACE MOUNTING

SMT TG Series switches incorporate many desirable features that include:

● **Tape & reel packaging**

This type of packaging is recommended for:

- economy
- suitability for automated placement
- handling of large quantities of components per packaging unit
- positive component positioning
- protection of terminals against damage during handling
- high static resistance

● **Reflow solderable**

- High temperature plastic materials
- Tin plated grounding brackets
- Tin-lead alloy over nickel terminal plating
- Terminals turned outward to prevent the shadow effect in infrared soldering and to permit visual inspection of the solder joints
- .021" (0.55mm) air gap between p.c. board and switch case
- End stackable with .400" (10.16mm) pitch
- Available with positioning pins to assure correct switch orientation during the reflow process and provide additional mechanical integrity

● **Washable**

Switches are designed to withstand cleaning processes, including hot water under pressure.

Surface mount devices (SMD) are subject to more stringent constraints of temperature, solderability, sealing and space savings than through-hole components.

To meet these requirements, APEM has designed a family of tiny surface mount switches that include TL Series toggle switches, TP Series pushbutton switches, TR Series rocker switches & TG Series slide switches. See toggle, pushbutton & rocker switch sections of catalog for TL, TP & TR Series respectively.



TG SERIES - SMT WASHABLE TINY SLIDE SWITCHES

ELECTRICAL SPECIFICATIONS

Contact ratings (resistive lds.):	0.4 VA at 20 V max. (AC or DC)
Minimum load:	10 mA at 50 mV or 10µA at 5 VD
Initial contact resistance:	20 milliohms maximum
Insulation resistance:	1000 MΩ min. at 500 VDC
Dielectric strength:	1000 V rms between terminals & frame. 500 V rms between terminals
Electrical life (at full load):	2 position switches: 60,000 cycles 3 position switches: 30,000 cycles
Static resistance:	10 KV (Schaffner equipment)

GENERAL SPECIFICATIONS

Travel:	.102" (2.60mm)
Operating temperature range:	-40°C to +85°C
Moisture resistance:	21 days per IEC 512-6 test 11c
Vibration resistance:	10-500 Hz/10g per IEC 512-4 test 6d
Shock resistance:	50 g per IEC 512-4 test 6c

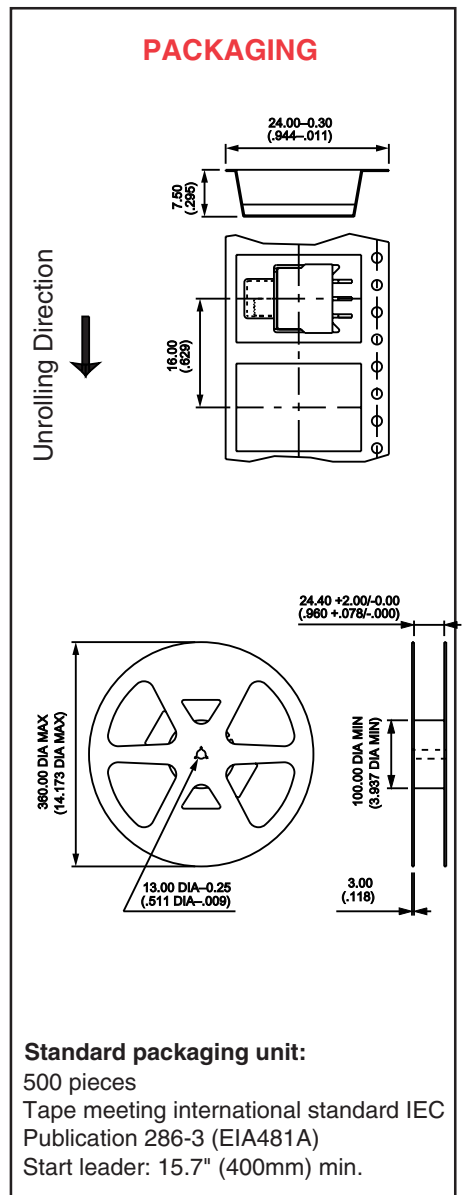
MATERIALS

Case:	High temperature plastic UL94V-0
Actuator:	High temperature plastic UL94V-0
Grounding brackets:	Tin plated steel (includes positioning pins)
Contacts:	Gold plated brass
Terminals:	Brass with tin-lead alloy over nickel plate
Terminal seal:	Epoxy

SOLDERING AND CLEANING

Reflow soldering:	Infrared, vapor phase and infrared convection
Washable:	Per IEA-RS448-2: water and detergent - preferred. Solvents.

PACKAGING



E

Technical drawings of the 1000 Series connector showing front, side, and detail views with dimensions in millimeters and inches.

Front View Dimensions:

- Overall Width: 2.50 (.098)
- Internal Width: 10.10 (.397)
- Internal Height: 5.00 (.198)
- Top Flange Width: 3.20 (.125)
- Top Flange Height: 0.90 (.035)
- Bottom Flange Width: 1.30 (.051)
- Bottom Flange Height: 1.16" (.400)
- Pin Spacing: 3.05 (.120)
- Pin Height: 5.55 (.218)

Side View Dimensions:

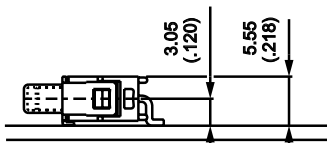
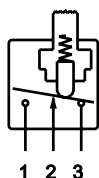
- Overall Height: 3.00 (.118)
- Internal Height: 5.80 (.228)
- Pin Height: 9.60 (.378)
- Pin Spacing: 2.54 (.100)
- Pin Width: 0.50 (.019)
- Pin Height: 4.30 (.169)

Detail View Dimensions:

- Overall Width: 6.90 (.271)
- Internal Width: 1.80 (.070)
- Internal Height: 7.96 (.313)
- Pin Spacing: 1.50 (.059)
- Pin Height: 0.80 (.031)
- Pin Height: 5.08 (.200)
- Pin Height: 2.10 (.082)

Figure 1: Mechanical drawing of the 10-pin connector. The drawing shows three views: a top view, a side view, and a front view. Dimensions are given in inches and millimeters. The top view shows a rectangular connector with a width of 10.10 (.397) and a height of 5.00 (.198). The side view shows a height of 3.20 (.125) and a width of 3.05 (.120). The front view shows a width of 5.08 (.200) and a height of 2.40 (.082).

LED INDICATOR IN TINY PACKAGE



Forward voltage:	Red; 3.0 volts at 10 milliamps (2V typical) Green; 3.0 volts at 20 milliamps (2.2V typical) Yellow; 3.0 volts at 10 milliamps (2.1V typical)
Reverse voltage:	5.0 volts minimum
Viewing angle (total):	90°
Wavelength:	Red; 635 nm Green; 565 nm Yellow; 585 nm

Tape & reel



Figure 1 displays three cross-sectional views of a mechanical assembly, showing dimensions in inches and millimeters.

Left View:

- Top flange: 1.30 (.051)
- Top flange outer diameter: 4.60 DIA (.181 DIA)
- Top flange inner diameter: 5.00 DIA (.196 DIA)
- Top flange thickness: 0.60 (.024)
- Top flange width: 8.10 (.318)
- Top flange offset: 5.08 (.200)

Middle View:

- Top flange: 3.80 (.149)
- Top flange outer diameter: 4.20 (.165)
- Top flange inner diameter: 5.15 (.202)
- Top flange thickness: 1.10 (.043)
- Top flange width: 10.16 (.400)
- Top flange offset: 5.55 (.218)
- Top flange offset: 3.05 (.120)
- Top flange offset: 1.30 (.051)

Right View:

- Top flange: 1.80 (.070)
- Top flange outer diameter: 6.90 (.271)
- Top flange inner diameter: 1.50 (.059)
- Top flange thickness: 2.10 (.082)
- Top flange width: 7.96 (.313)
- Top flange offset: 5.08 (.200)
- Top flange offset: 0.80 (.031)

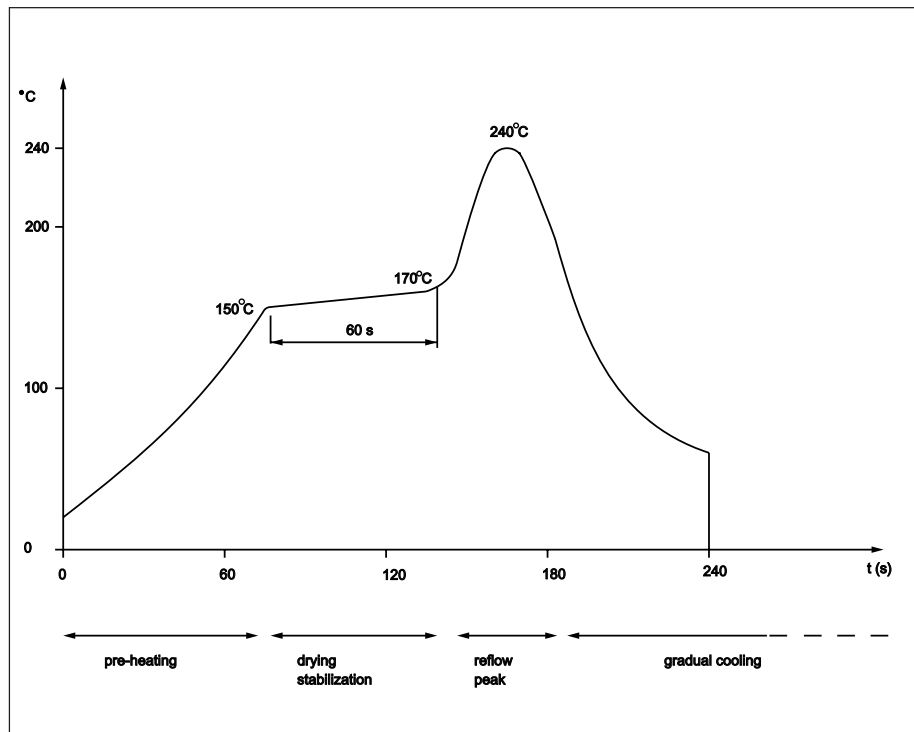
TG SERIES - SMT WASHABLE TINY SLIDE SWITCHES

REFLOW SOLDERING - STANDARD PROFILE

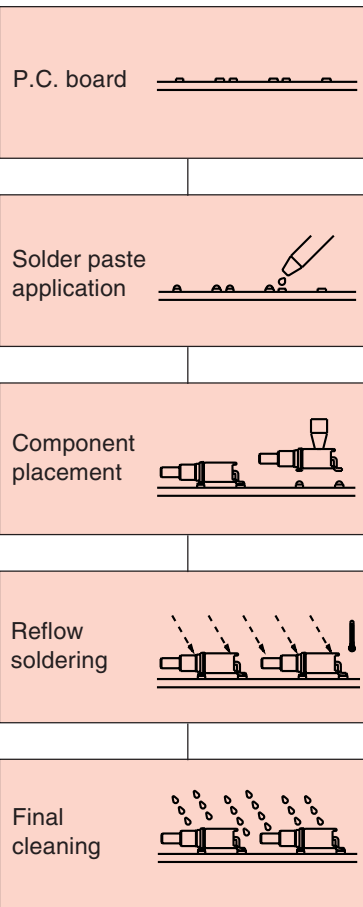
The printed circuit board, carried by a conveyor belt, travels through the reflow soldering oven and experiences the following programmed cycles:

- pre-heat to a maximum of 200°C for 30 seconds
- reflow at a maximum of 245°C for 10 seconds
- final cleaning

TEMPERATURE/TIME PROFILE (typical)



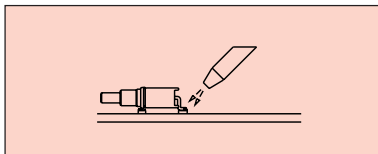
PROCESSING STEPS



E

P.C. BOARD REWORK RECOMMENDATIONS

Hot air reflow technique is preferred. Avoid the use of a soldering iron.



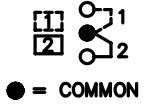
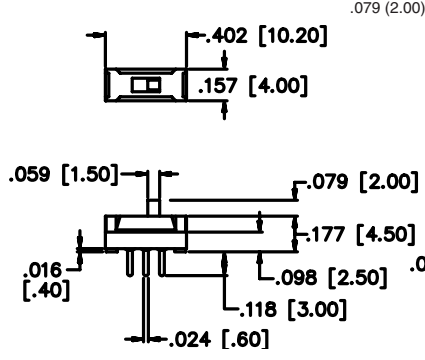
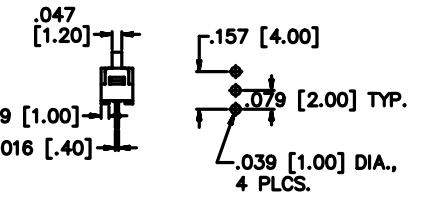
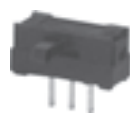
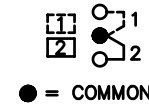
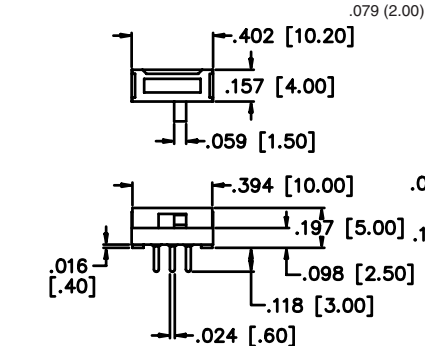
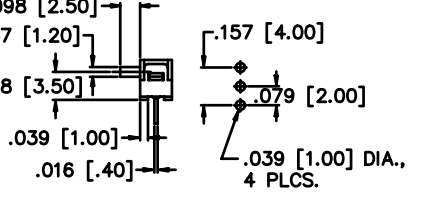
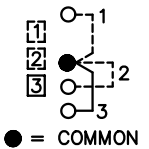
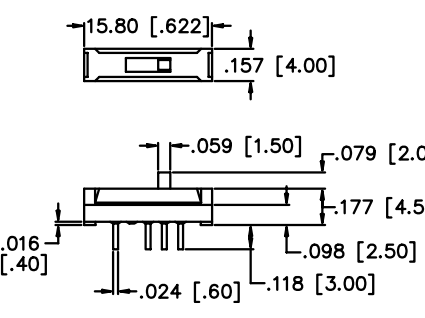
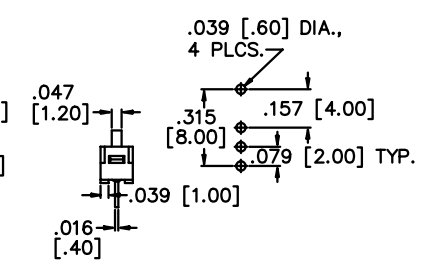
Caution: Excessive and/or repeated high temperature exposure may affect switch performance & reliability.

MJS Series

Microminiature Slide Switches

SPECIFICATIONS	FEATURES
Contact rating: 100 mA at 12 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS at sea level Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Actuation force: 225g (average) Solder heat resistance: 260°C max. for 5 seconds Washing not recommended	● Bifurcated wiping contact design. ● Molded-in terminals minimize flux or solder entry. ● Molded-in high temperature phenolic base. ● Low Profile.
	MATERIALS
	Contacts & terminals: Silver plated Case & actuator: Thermoplastic Terminal seal: Molded-in

E

MODEL NO. MJS12	1P2T		 ● = COMMON		
MODEL NO. MJS12R	1P2T		 ● = COMMON		
MODEL NO. MJS13	1P3T		 ● = COMMON		

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MJS Series

Microminiature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.		.079 (2.00) TRAVEL/THROW		
MJS13R				
				
RIGHT ANGLE ACTUATOR				
SCHEMATIC		MECHANICAL OUTLINE		P.C. BOARD LAYOUT

MODEL NO.		.079 (2.00) TRAVEL/THROW		
MJS22				
				
VERTICAL ACTUATOR				
SCHEMATIC		MECHANICAL OUTLINE		P.C. BOARD LAYOUT

MODEL NO.		.079 (2.00) TRAVEL/THROW		
MJS22R				
				
RIGHT ANGLE ACTUATOR				
SCHEMATIC		MECHANICAL OUTLINE		P.C. BOARD LAYOUT

E

MSSA & MSSB Series

Microminiature Slide Switches

SPECIFICATIONS

Contact ratings: Gold; 0.4 Volt-Amps (VA) max. at 20 V max. (AC or DC)
Silver; 100 mA at 125 VAC or 30 VDC
Initial contact resistance: 30 milliohms max.
Insulation resistance: 100 megohms min. at 250 VDC
Dielectric strength: 250 volts RMS at sea level
Electrical life: 10,000 cycles min.
Operating temperature range: -10°C to +60°C
Actuation force: 250g $\pm$ 150g
Solder heat resistance: 260°C max. for 3 seconds
Washing not recommended

FEATURES

- Low Profile.
- Epoxy sealed terminals.
- Cosmetic molded case.

MATERIALS

Contacts & terminals: Gold or silver available (see contact ratings)
Housing and Actuator: Thermoplastic
Base: High temperature thermoplastic
Terminal seal: Epoxy

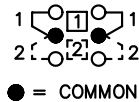
MODEL NO. PLATING

MSSA22 SILVER
MSSA22G GOLD

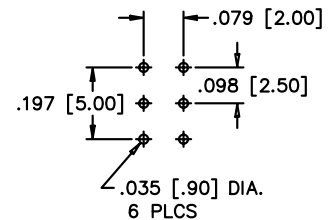
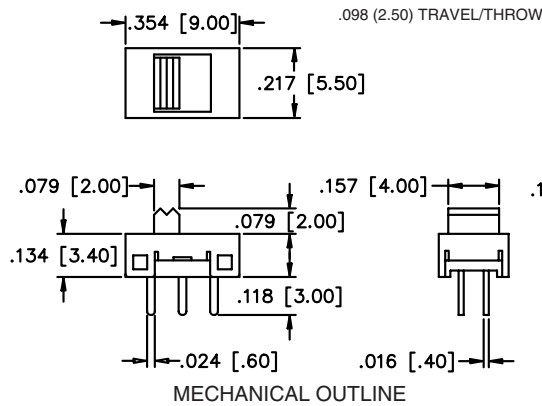
2P2T



VERTICAL ACTUATOR



SCHEMATIC



SPECIFICATIONS

Contact ratings: Gold; 0.4 Volt-Amps (VA) max. at 20 V max. (AC or DC)
Silver; 100 mA at 125 VAC or 30 VDC
Initial contact resistance: 20 milliohms max.
Insulation resistance: 100 megohms min. at 250 VDC
Dielectric strength: 250 volts RMS at sea level
Electrical life: 10,000 cycles min.
Operating temperature range: -10°C to +60°C
Actuation force: 200g $\pm$ 150g
Solder heat resistance: 260°C max. for 3 seconds
Washing not recommended

FEATURES

- Bifurcated wiping contact design.
- Low Profile.
- Epoxy sealed terminals.

MATERIALS

Contacts & terminals: Gold or silver available (see contact ratings)
Housing: Tin plated steel
Actuator: Thermoplastic
Base: Phenolic laminated sheet
Terminal seal: Epoxy

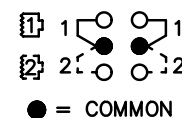
MODEL NO. PLATING

MSSB22R SILVER
MSSB22RG GOLD

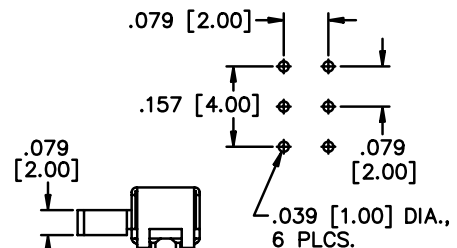
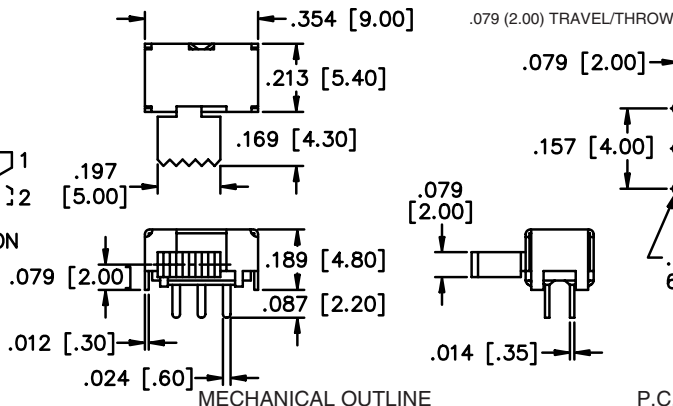
2P2T



RIGHT ANGLE ACTUATOR



SCHEMATIC

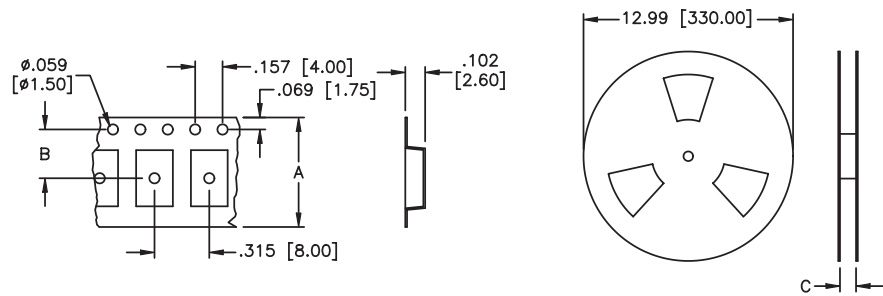


MA Series

Microminiature Memory Card

Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SPECIFICATIONS		FEATURES													
Contact rating: 300 mA at 4 VDC Initial contact resistance: 70 milliohms max. Insulation resistance: 100 megohms min. at 100 VDC Dielectric strength: 100 VAC for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Actuation force: 200g ± 100g Solder heat resistance: Reflow - 260°C max. for 1 min. Manual - iron temperature 305 °C max. for 6 seconds. Washing not recommended		● Ultra-compact size. ● Low Profile. ● Surface mounting with restraining bosses. ● Reflow or hand solderable.													
MODEL NO.		MATERIALS													
MA12R		Contacts: Silver plated beryllium copper Terminals: Silver plated brass Base: Liquid crystal polymer Cover: Tin plated steel Actuator: Liquid crystal polymer													
		1P2T .059 (1.50) TRAVEL/THROW Schematic Mechanical Outline P.C. Board Layout													
RIGHT ANGLE ACTUATOR															
MODEL NO.		.059 (1.50) TRAVEL/THROW													
MA13R		1P3T .059 (1.50) TRAVEL/THROW Schematic Mechanical Outline P.C. Board Layout													
RIGHT ANGLE ACTUATOR															
MODEL NO.															
MA12R/TR MA13R/TR															
Same as above models except supplied on tape & reel as shown.															
<table><tr><th>Model No.</th><th>Dim. A</th><th>Dim. B</th><th>Dim. C</th></tr><tr><td>MA12RTR</td><td>.630 (16.0)</td><td>.217 (5.5)</td><td>.646 (16.4)</td></tr><tr><td>MA13R/TR</td><td>.945 (24.0)</td><td>.453 (11.5)</td><td>.960 (24.4)</td></tr></table>		Model No.	Dim. A	Dim. B	Dim. C	MA12RTR	.630 (16.0)	.217 (5.5)	.646 (16.4)	MA13R/TR	.945 (24.0)	.453 (11.5)	.960 (24.4)		
Model No.	Dim. A	Dim. B	Dim. C												
MA12RTR	.630 (16.0)	.217 (5.5)	.646 (16.4)												
MA13R/TR	.945 (24.0)	.453 (11.5)	.960 (24.4)												
		CARRIER TAPE													
		REEL DIMENSIONS													

MHSS Series

Microminiature Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: 300 mA at 6 VDC Initial contact resistance: 60 milliohms max. Insulation resistance: 100 megohms min. at 100 VDC Dielectric strength: 100 VAC for 1 minute Electrical life: 5000 cycles min. Operating temperature range: -20°C to +70°C Solder heat resistance: 350°C max. for 3 seconds Washing not recommended	● Excellent tactile feed-back (detent action). ● Molded-in terminals minimize flux or solder entry. ● Ultra-compact case size. ● Low profile.
	MATERIALS
	Contacts & terminals: Silver plated Case: 30% Glass filled nylon, type 6/6, black Actuator: Nylon, type 6/6, black (blue for MHSS2220 only)

E

MODEL NO. MHSS1104	1P2T ● = COMMON	.079 (2.00) TRAVEL/THROW	.031 [.80] DIA., 6 PLCS.
MODEL NO. MHSS1105	1P2T ● = COMMON	.079 (2.00) TRAVEL/THROW	.031 [.80] DIA., 3 PLCS.
MODEL NO. MHSS2220	2P2T ● = COMMON	.079 (2.00) TRAVEL/THROW	.031 [.80] DIA., 6 PLCS.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MS Series

Microminiature Slide Switches

SPECIFICATIONS

Contact rating: 300 mA at 6 VDC
Initial contact resistance: 70 milliohms max.
Insulation resistance: 100 megohms max. at 500 VDC
Dielectric strength: 500 volts RMS at sea level
Electrical life: 10,000 cycles min.
Operating temperature range: -10°C to +60°C
Solder heat resistance: 260°C max. for 3 seconds
Washing not recommended

FEATURES

- Low profile.
- Insert molded terminals.
- Stainless steel cover.

MATERIALS

Contacts & terminals: Silver plated
Cover: Stainless steel
Actuator: Thermoplastic
Base: High temperature thermoplastic **Terminal seal:** Insert molded

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

E

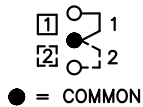
MODEL NO.

MS12

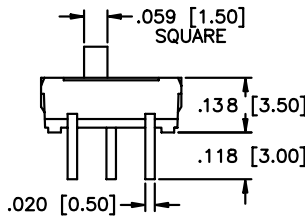
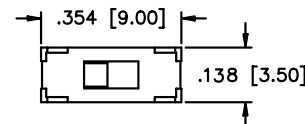


VERTICAL ACTUATOR

1P2T

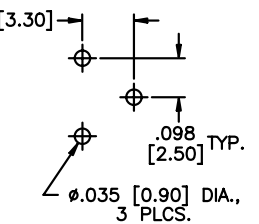
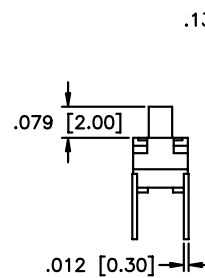


SCHEMATIC



MECHANICAL OUTLINE

.079 (2.00) TRAVEL/THROW



P.C. BOARD LAYOUT

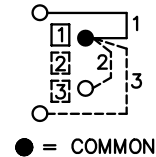
MODEL NO.

MS13

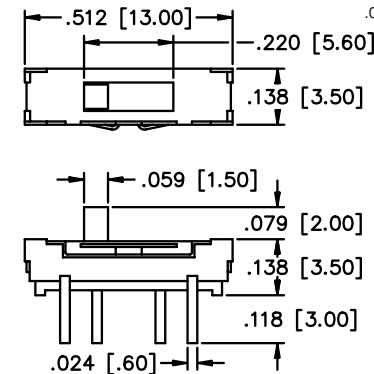


VERTICAL ACTUATOR

1P3T

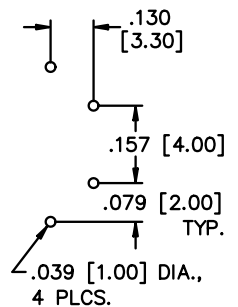
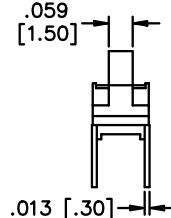


SCHEMATIC



MECHANICAL OUTLINE

.079 (2.00) TRAVEL/THROW



P.C. BOARD CUTOUT

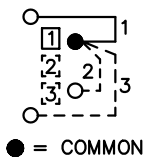
MODEL NO.

MS13S

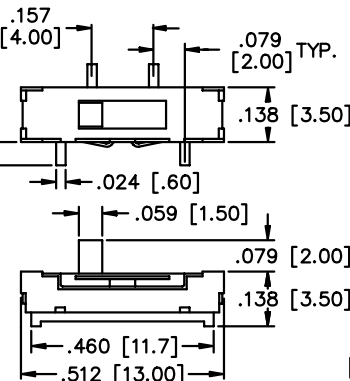


VERTICAL ACTUATOR

1P3T

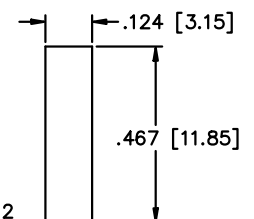
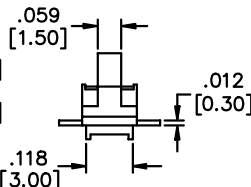


SCHEMATIC



MECHANICAL OUTLINE

.079 (2.00) TRAVEL/THROW

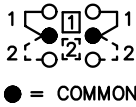
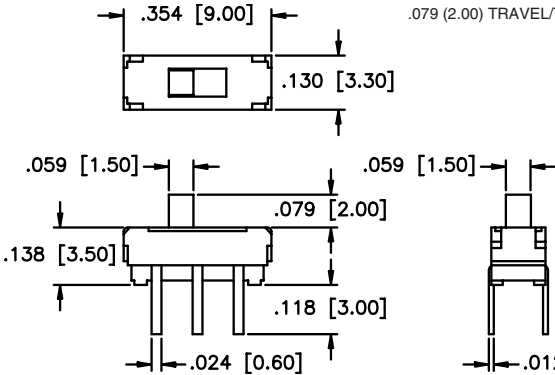
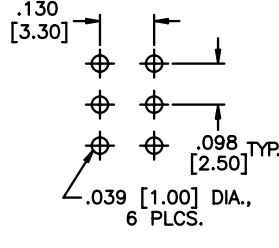
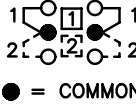
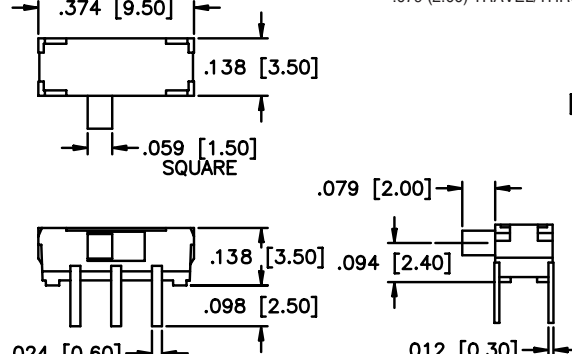
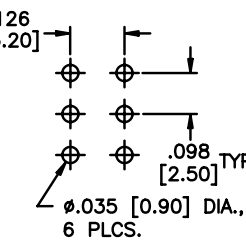
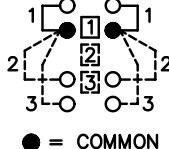
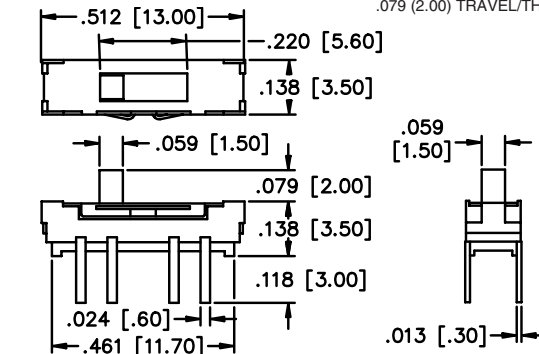
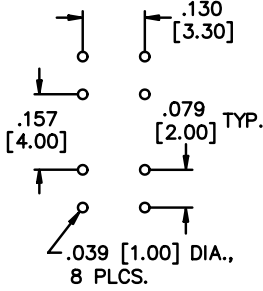
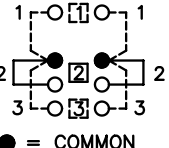
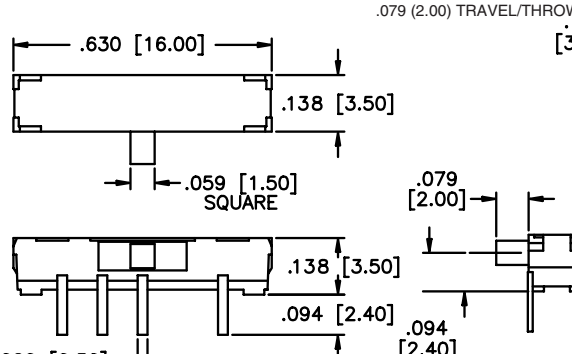
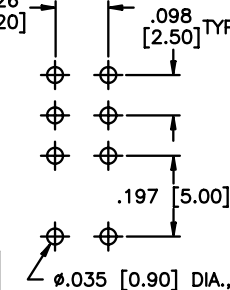


P.C. BOARD LAYOUT

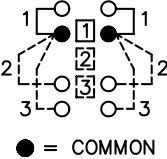
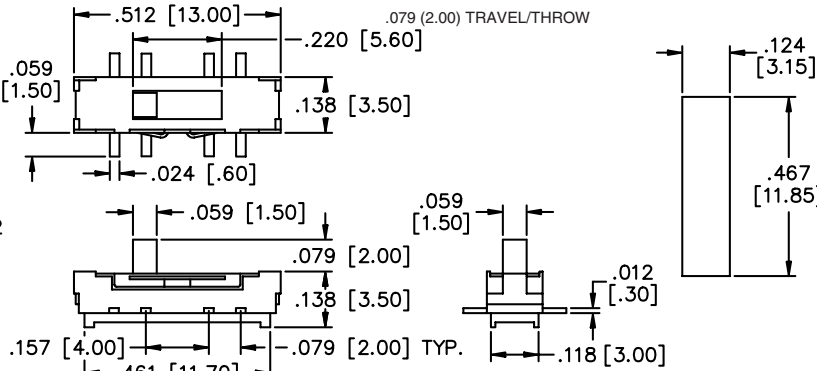
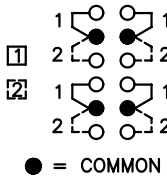
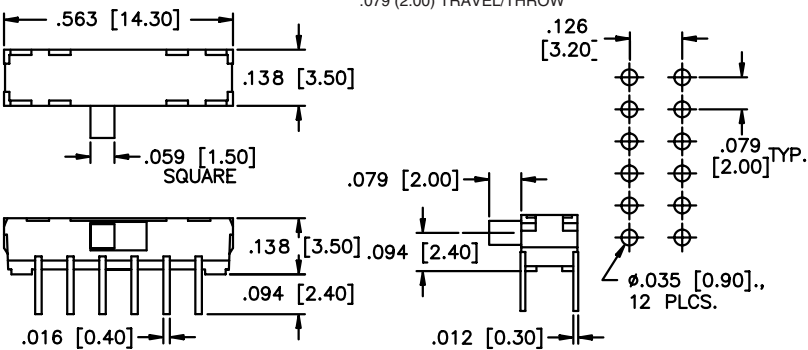
MS Series

Microminiature Slide Switches

E

MODEL NO. MS22  VERTICAL ACTUATOR	2P2T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .079 (2.00) TRAVEL/THROW
MODEL NO. MS22R  RIGHT ANGLE ACTUATOR	2P2T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .079 (2.00) TRAVEL/THROW
MODEL NO. MS23  VERTICAL ACTUATOR	2P3T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .079 (2.00) TRAVEL/THROW
MODEL NO. MS23R  RIGHT ANGLE ACTUATOR	2P3T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD CUTOUT  .079 (2.00) TRAVEL/THROW

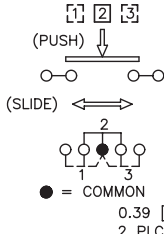
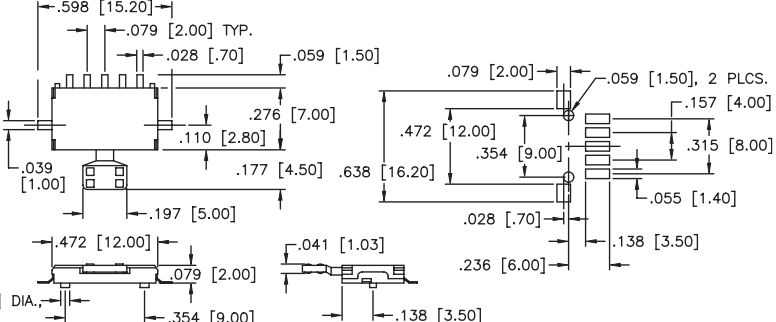
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.			
MS23S			
 VERTICAL ACTUATOR	2P3T   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD CUTOUT		
MODEL NO.			
MS42R			
 RIGHT ANGLE ACTUATOR	4P2T   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT		

New!

MMPS Series

Microminiature Pushbutton Style Slide Switches

SPECIFICATIONS	FEATURES
Contact rating: 300 mA at 4 VDC Initial contact resistance: 70 milliohms max. Insulation resistance: 100 megohms min. at 100 VDC Dielectric strength: 100 VAC for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Actuation force: Pushbutton; 200g average Slide; 275g average Solder heat resistance: 260°C max. for 3 seconds Washing not recommended	● Surface mounting configuration. ● Combination momentary pushbutton & slide switch mechanism. ● Ultra-low profile & ultra-compact case. ● Molded-in terminal seal. MATERIALS Contacts: Gold plated copper alloy Frame: Stainless steel Actuator: 6/6 Nylon or PA Base: High temperature PPS Terminal seal: Molded-in
MODEL NO.	
MMPS101	
 RIGHT ANGLE ACTUATOR	1P2T, (PB) 1P3T, (Slide)   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

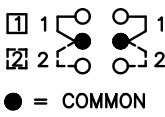
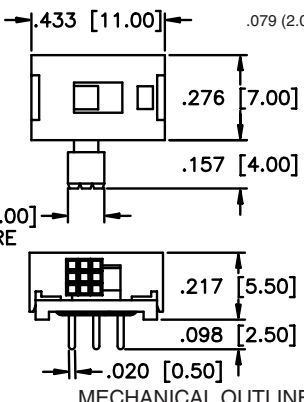
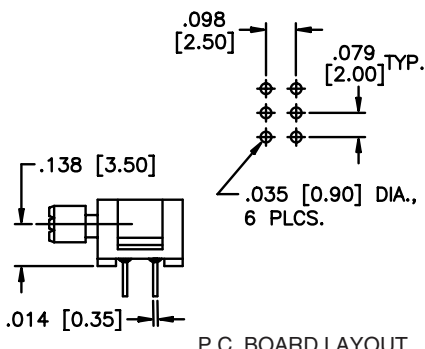
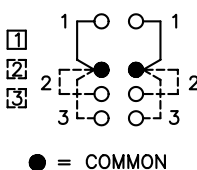
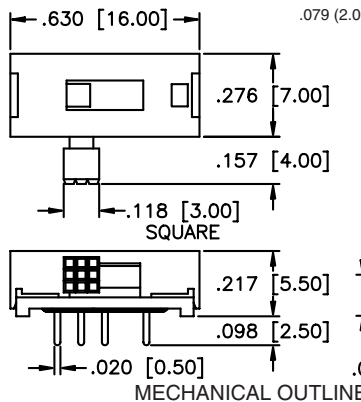
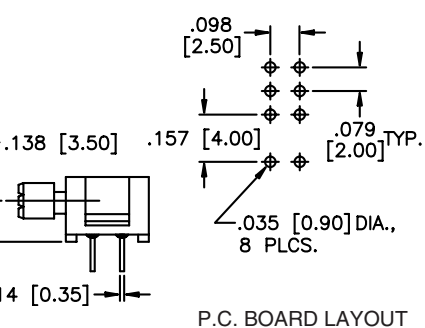
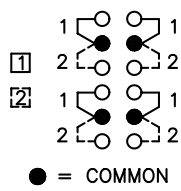
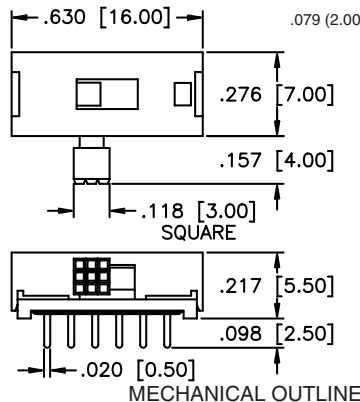
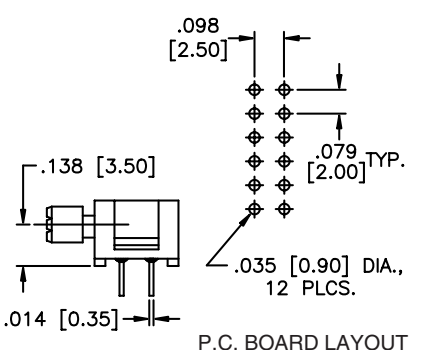
MMS Series

Microminiature Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: 300 mA at 30 VDC Initial contact resistance: 25 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +70°C Solder heat resistance: 255°C max. for 5 seconds max. Washing not recommended	● Bifurcated wiping contact design. ● Low Profile. ● Epoxy sealed terminals. ● Cosmetic molded case.
	MATERIALS
	Contacts & terminals: Silver plated Case: Polyacetal Actuator: PBT Base: Glass filled PBT Terminal seal: Epoxy or phenol resin

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

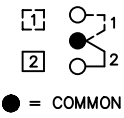
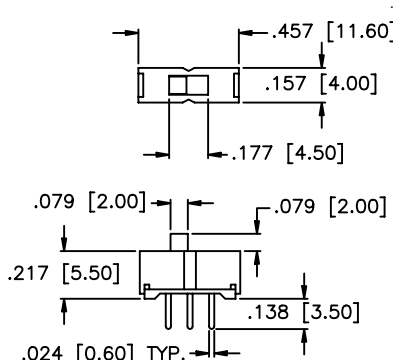
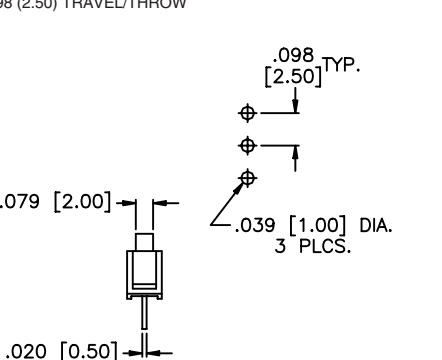
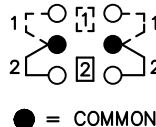
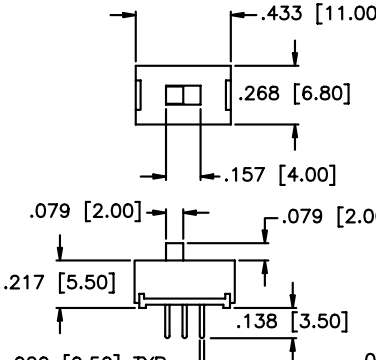
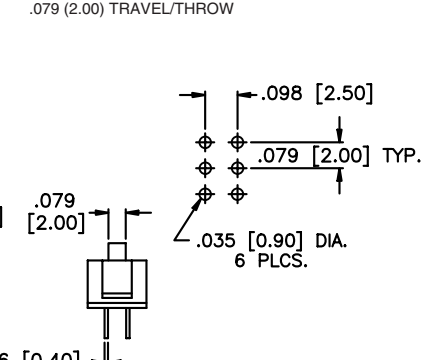
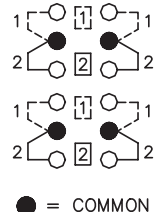
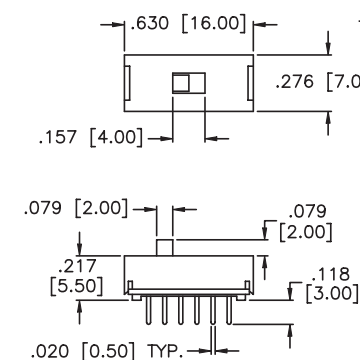
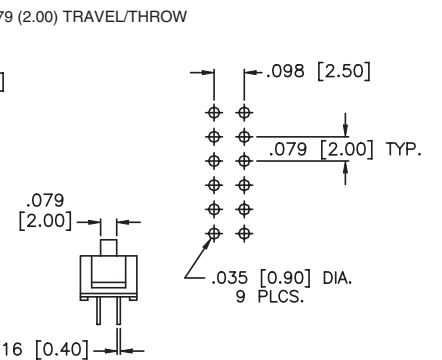
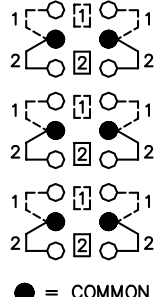
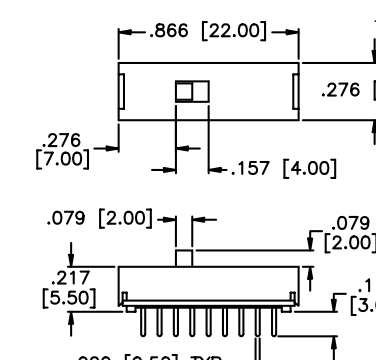
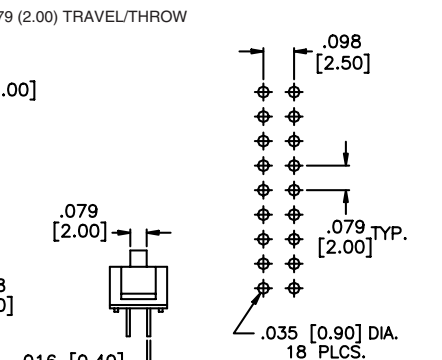
E

MODEL NO. MMS22R	2P2T   RIGHT ANGLE ACTUATOR	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MMS23R	2P3T   RIGHT ANGLE ACTUATOR	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MMS42R	4P2T   RIGHT ANGLE ACTUATOR	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT

MMS Series

Microminiature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO. MMS1208  VERTICAL ACTUATOR	1P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MMS2214  VERTICAL ACTUATOR	2P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MMS42 New!  VERTICAL ACTUATOR	4P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MMS6202  VERTICAL ACTUATOR	6P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

TG Series

Microminiature Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: Gold; 0.4 Volt-Amps max. at 20 V max. Silver; 500 mA at 48 V max. (AC or DC) Initial contact resistance: 20 milliohms max. Insulation resistance: 1000 megohms min. at 500 VDC Dielectric strength: 1000 V rms min. between terms. and ground plate (and bracket) Electrical life: 2 position switches-60,000 cycles min. 3 position switches-30,000 cycles min. Operating temperature range: -30°C to +85°C Solder heat resistance: 260°C for 5 seconds max. Washing: Permissible (with model option 50)	● Ultra-compact case size. ● Washable models. ● SPDT maintained action with long electrical life. ● See additional options on pg. E20.
MATERIALS	Contacts & terminals: Gold or silver available (see contact ratings) Actuator: Thermoplastic Ground plate & bracket: Tin plated steel Case: Flame retardant thermoplastic Terminal seal: Epoxy Washable seal: Translucent silicone rubber (with model option 50)

E

MODEL NO.	PLATING	ACTION	STRAIGHT P.C. TERMINALS - STANDARD MODELS	TRAVEL/THROW; .102 (2.60)
TG36P000000	Gold	on - on	FUNCTION (see page e 20) ON ON 1 2 1 2 OFF 3 1 2 1 2 ON ON 1 2 1 2 ● = COMMON	MECHANICAL OUTLINE P.C. BOARD LAYOUT
TG39P000000	Gold	on off on		
TG36P010000	Silver	on - on		
TG39P010000	Silver	on off on		
MODEL NO.	PLATING	ACTION	STRAIGHT P.C. TERMINALS - WASHABLE MODELS	TRAVEL/THROW; .102 (2.60)
TG36P000050	Gold	on - on	FUNCTION (see page e 20) ON ON 1 2 1 2 OFF 3 1 2 1 2 ON ON 1 2 1 2 ● = COMMON	MECHANICAL OUTLINE P.C. BOARD LAYOUT
TG39P000050	Gold	on off on		
TG36P010050	Silver	on - on		
TG39P010050	Silver	on off on		
MODEL NO.	PLATING	ACTION	STRAIGHT P.C. TERMINALS - BRACKET MTG. - STANDARD MODELS	TRAVEL/THROW; .102 (2.60)
TG36Y000000	Gold	on - on	FUNCTION (see page e 20) ON ON 1 2 1 2 OFF 3 1 2 1 2 ON ON 1 2 1 2 ● = COMMON	MECHANICAL OUTLINE P.C. BOARD LAYOUT
TG39Y000000	Gold	on off on		
TG36Y010000	Silver	on - on		
TG39Y010000	Silver	on off on		

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

TG Series

Microminiature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	PLATING	ACTION	STRAIGHT P.C. TERMINALS - BRACKET MTG. - WASHABLE MODELS	TRAVEL/THROW; .102 (2.60)
TG36Y000050	Gold	on - on	FUNCTION (see page e 20) 6 9 ON ON [1] 1 [2] 2 OFF [3] 1 [4] 2 ON ON [1] 1 [2] 2 ● = COMMON	MECHANICAL OUTLINE
TG39Y000050	Gold	on off on		
TG36Y010050	Silver	on - on		
TG39Y010050	Silver	on off on		
PROCESS COMPATIBLE			P.C. BOARD LAYOUT	
MODEL NO.	PLATING	ACTION	RIGHT ANGLE TERMINALS - HORIZONTAL MTG. - STANDARD MODELS	TRAVEL/THROW; .102 (2.60)
TG36W000000	Gold	on - on	FUNCTION (see page e 20) 6 9 ON ON [1] 1 [2] 2 OFF [3] 1 [4] 2 ON ON [1] 1 [2] 2 ● = COMMON	MECHANICAL OUTLINE
TG39W000000	Gold	on off on		
TG36W010000	Silver	on - on		
TG39W010000	Silver	on off on		
PROCESS COMPATIBLE			P.C. BOARD LAYOUT	
MODEL NO.	PLATING	ACTION	RIGHT ANGLE TERMINALS - HORIZONTAL MTG. - WASHABLE MODELS	TRAVEL/THROW; .102 (2.60)
TG36W000050	Gold	on - on	FUNCTION (see page e 20) 6 9 ON ON [1] 1 [2] 2 OFF [3] 1 [4] 2 ON ON [1] 1 [2] 2 ● = COMMON	MECHANICAL OUTLINE
TG39W000050	Gold	on off on		
TG36W010050	Silver	on - on		
TG39W010050	Silver	on off on		
PROCESS COMPATIBLE			P.C. BOARD LAYOUT	

General tolerances for all TG Series drawings - $\pm .012$ " (0.3 mm)

TG Series

Microminiature Slide Switches

Additional ordering information: Commonly ordered models are shown on preceeding pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes shown with options selected from below.
Allowable options for each box are shown under each respective box.

Series	Poles	Function	Terms.	Contact & Term. Mat'l.	Actuator	Model
T G	3	6 9	P 0 Y 0 W 0 M W	0 1 3 8 9	0 0 1 0	0 0 5 0

Poles: 3 = Single Pole

Functions: 6 = ON - ON 9 = ON OFF ON

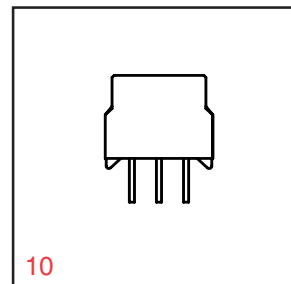
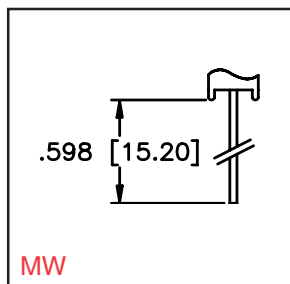
Terminals: P 0 = Straight printed circuit terminals
Y 0 = Straight printed circuit terminals, bracket mtg.
W 0 = Right angle printed circuit terminals, horizontal mtg. with bracket
M W = Wirewrap terminals

Contact & terminal materials: 0 = Brass, gold plated (standard)
1 = Brass, silver plated
3 = Brass, gold plated (1.27 microns gold)
8 = Brass contacts, gold plated and tin plated terminals
9 = Brass contacts, gold plated (1.27 microns gold) and tin plated terminals

Actuators: 0 0 = High (standard)
1 0 = Flush

Model: 0 0 = Standard
5 0 = Washable

Options MW (wirewrap terminals) and 10 (flush actuator)



New!
Raised actuator

NK Series

Microminiature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

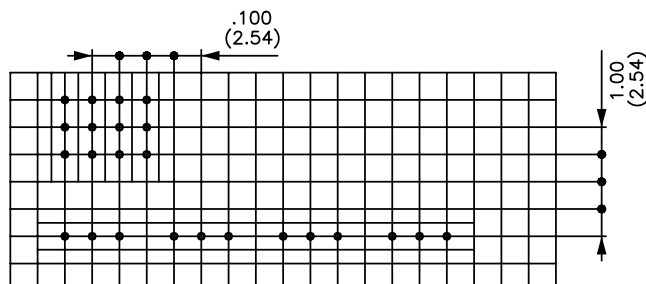
SPECIFICATIONS	FEATURES
Contact rating: 500 mA 12V max. - 1mA 10 mV min. Initial contact resistance: 20 milliohms max. Insulation resistance: 10,000 MΩ min. at 500VDC Dielectric strength: 250 Vrms between terminals 2000 Vrms between adjacent poles placed side by side Electrical life: 2,000 cycles min. Operating temperature range: -40°C to +85°C Solder heat resistance: 250°C max. for 5 seconds Washing not recommended	● Cost effective. ● Flush or raised actuator. ● Wave solderable, flux sealed. ● Through-hole round terminals, straight or right angle. ● Stackable in X & Y directions (with straight terminals).
	MATERIALS
	Contacts & terminals: Gold over nickel plated Case: PBT, glass filled (UL94V-0) Actuator: PBT, glass filled (UL94V-0)

MODEL NO.	1P2T	.062 (1.6) TRAVEL
NK236 Flush actuator (shown) NK236H Raised actuator	● = COMMON	
VERTICAL ACTUATOR	SCHEMATIC	MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	1P2T	.062 (1.6) TRAVEL
NK236W Flush actuator NK236WH Raised actuator (shown)	● = COMMON	
RIGHT ANGLE TERMINALS	SCHEMATIC	MECHANICAL OUTLINE P.C. BOARD LAYOUT

E

EXAMPLE OF PRINTED CIRCUIT BOARD LAYOUT FOR STACKING UNITS

Pitch = .100" (2.54mm)

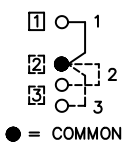
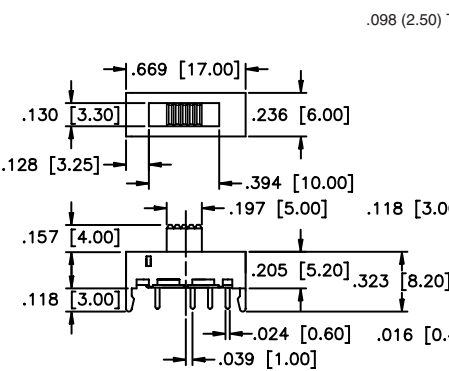
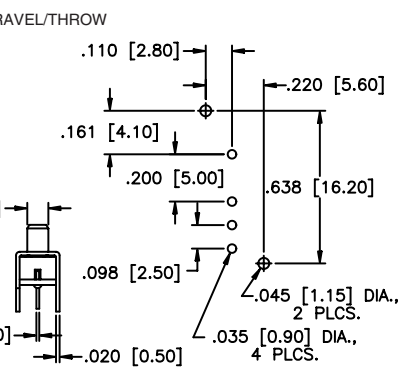
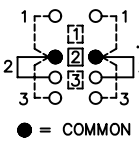
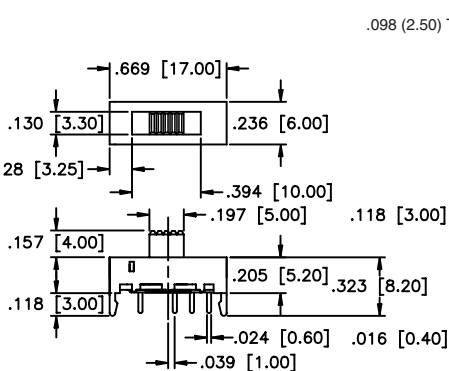
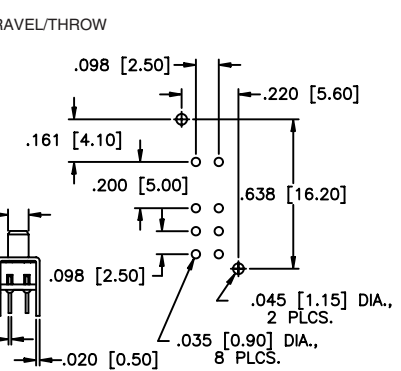


MSTS Series

Miniature Slide Switches

SPECIFICATIONS	FEATURES
Contact rating: 300 mA at 28 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 VAC for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Solder heat resistance: 250°C max. for 5 seconds Actuation force: 200-600 grams Solvent washing permissible	● Miniature compact size. ● Wash-through open frame construction. ● Snap-in p.c. mounting bracket design. ● Positive spring loaded ball detent mechanism. ● Epoxy sealed terminals. ● Gold plated contacts available - consult factory.
	MATERIALS
	Contacts & terminals: Silver plated brass Housing: Zinc plated steel Actuator: Polyacetal, color black Base: Phenolic laminated sheet
	Terminal seal: Epoxy

E

MODEL NO. MSTS1332K	1P3T    VERTICAL ACTUATOR
MODEL NO. MSTS2332K	2P3T    VERTICAL ACTUATOR

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MHS Series

Miniature Slide Switches

with aluminum actuator

SPECIFICATIONS

Contact rating: 300 mA at 30 VDC
Initial contact resistance: 20 milliohms max.
Insulation resistance: 100 megohms min. at 500 VDC
Dielectric strength: 500 VAC for 1 minute
Electrical life: 10,000 cycles min.
Operating temperature range: -20°C to +85°C
Solder heat resistance: 260°C max. for 3 seconds
Actuation force: 250 ±150 grams
Solvent washing permissible

FEATURES

- Miniature compact size.
- Wash-through open frame construction.
- Positive spring loaded ball detent mechanism.
- Epoxy sealed terminals.

MATERIALS

Contacts & terminals: Silver plated brass
Housing: Tin plated steel
Actuator: Aluminum alloy
Base: Phenolic laminated sheet
Terminal seal: Epoxy

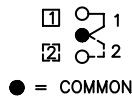
MODEL NO.

MHS122K

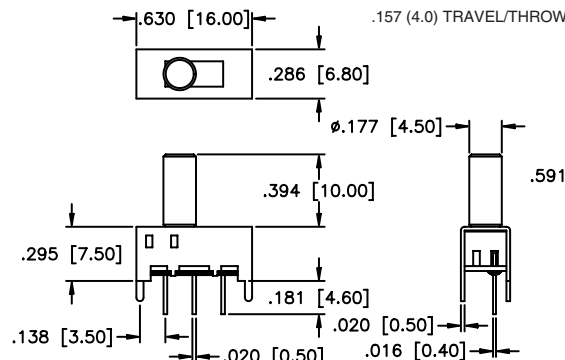


VERTICAL ACTUATOR

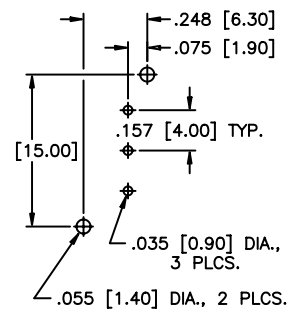
1P2T



SCHEMATIC



MECHANICAL OUTLINE



P.C. BOARD LAYOUT

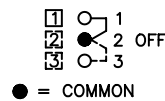
MODEL NO.

MHS123K

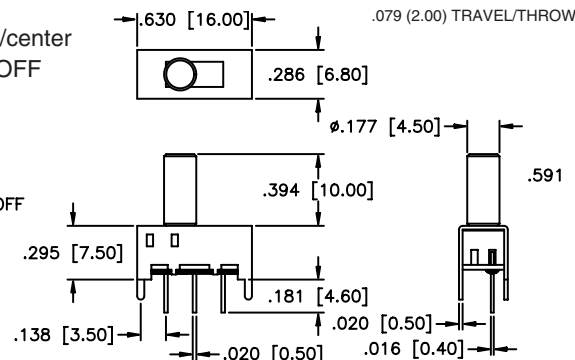


VERTICAL ACTUATOR

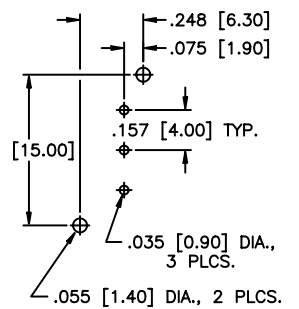
1P2T w/center OFF



SCHEMATIC



MECHANICAL OUTLINE



P.C. BOARD LAYOUT

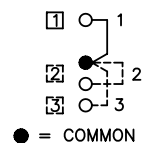
MODEL NO.

MHS133K

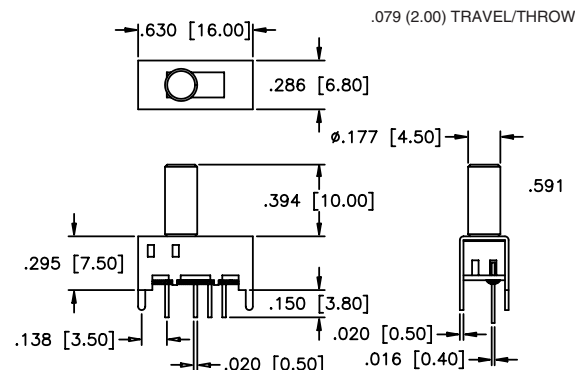


VERTICAL ACTUATOR

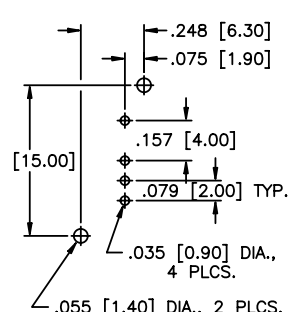
1P3T



SCHEMATIC



MECHANICAL OUTLINE



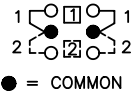
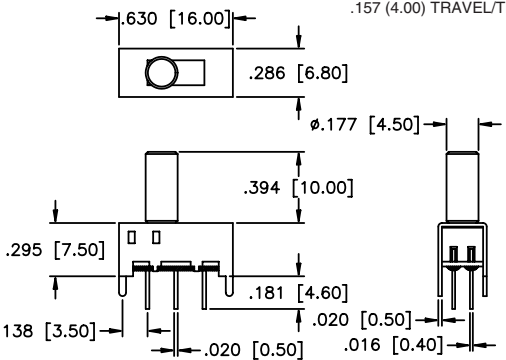
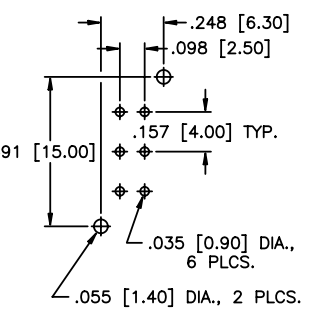
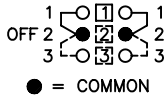
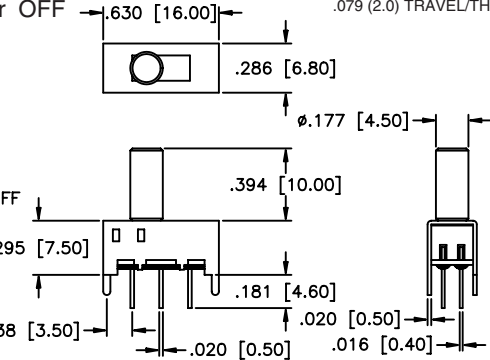
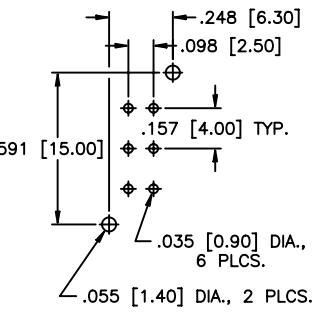
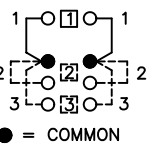
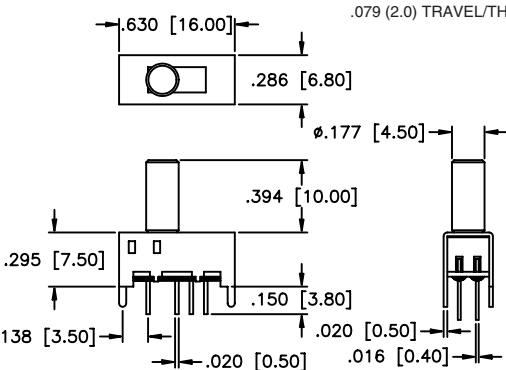
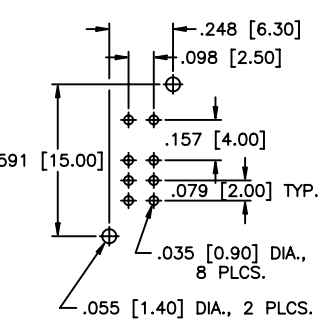
P.C. BOARD LAYOUT

MHS Series

Miniature Slide Switches

with aluminum actuator

E

MODEL NO. MHS222K  VERTICAL ACTUATOR	2P2T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .157 (4.00) TRAVEL/THROW .630 [16.00] .286 [6.80] φ.177 [4.50] .394 [10.00] .295 [7.50] .138 [3.50] .181 [4.60] .020 [0.50] .016 [0.40] .591 [15.00] .248 [6.30] .098 [2.50] .157 [4.00] TYP. .035 [0.90] DIA., 6 PLCS. .055 [1.40] DIA., 2 PLCS.
MODEL NO. MHS223K  VERTICAL ACTUATOR	2P2T w/center OFF SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .079 (2.0) TRAVEL/THROW .630 [16.00] .286 [6.80] φ.177 [4.50] .394 [10.00] .295 [7.50] .138 [3.50] .181 [4.60] .020 [0.50] .016 [0.40] .591 [15.00] .248 [6.30] .098 [2.50] .157 [4.00] TYP. .035 [0.90] DIA., 6 PLCS. .055 [1.40] DIA., 2 PLCS.
MODEL NO. MHS233K  VERTICAL ACTUATOR	2P3T SCHEMATIC  ● = COMMON MECHANICAL OUTLINE  P.C. BOARD LAYOUT  .079 (2.0) TRAVEL/THROW .630 [16.00] .286 [6.80] φ.177 [4.50] .394 [10.00] .295 [7.50] .138 [3.50] .150 [3.80] .020 [0.50] .016 [0.40] .591 [15.00] .248 [6.30] .098 [2.50] .157 [4.00] .079 [2.00] TYP. .035 [0.90] DIA., 8 PLCS. .055 [1.40] DIA., 2 PLCS.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New!

MHS Series

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SPECIFICATIONS	FEATURES
Contact rating: 300 mA at 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 VAC for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Solder heat resistance: 260°C max. for 3 seconds Actuation force: 250 ±150 grams Solvent washing permissible	● Miniature compact size. ● Wash-through open frame construction. ● Positive spring loaded ball detent mechanism. ● Epoxy sealed terminals.
	MATERIALS
	Contacts & terminals: Silver plated brass Housing: Tin plated steel Actuator: Polyacetal Base: Phenolic laminated sheet
	Terminal seal: Epoxy

MODEL NO. MHS122	1P2T
MODEL NO. MHS123	1P2T w/center OFF
MODEL NO. MHS133	1P3T

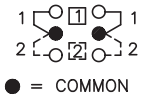
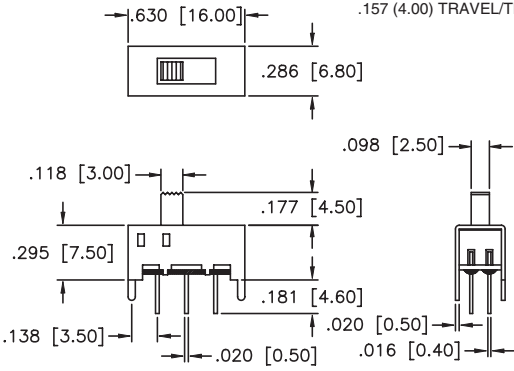
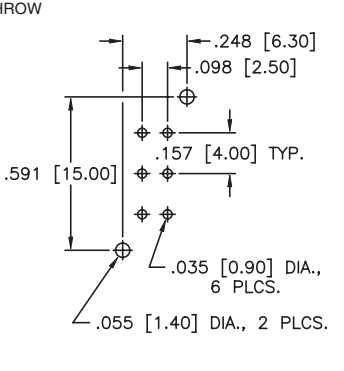
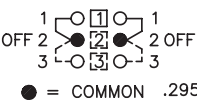
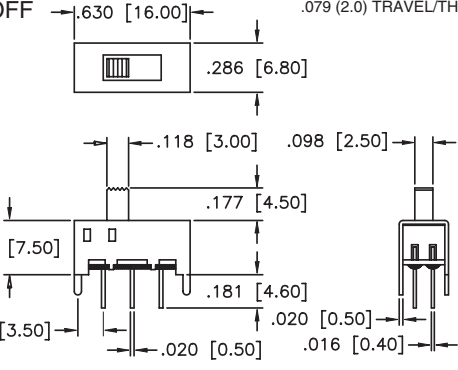
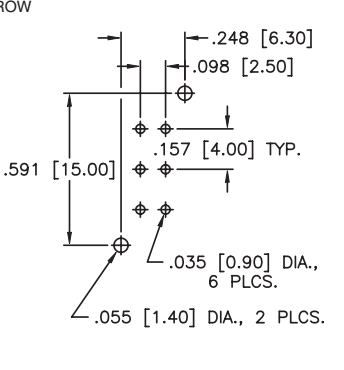
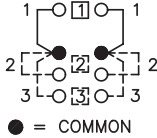
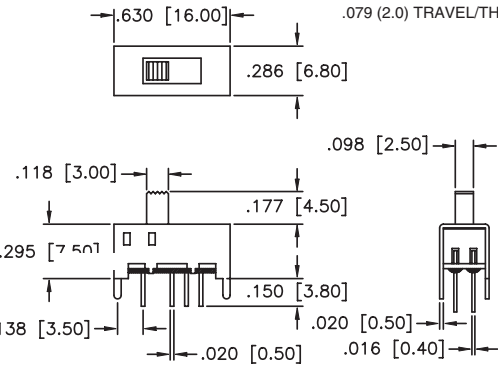
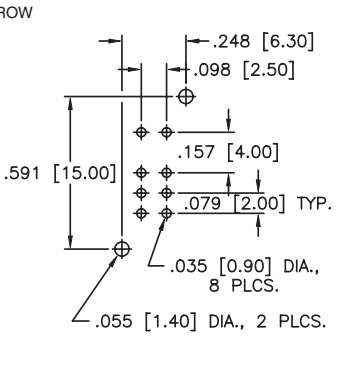
MHS Series

Miniature Slide Switches

New!

E

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

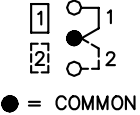
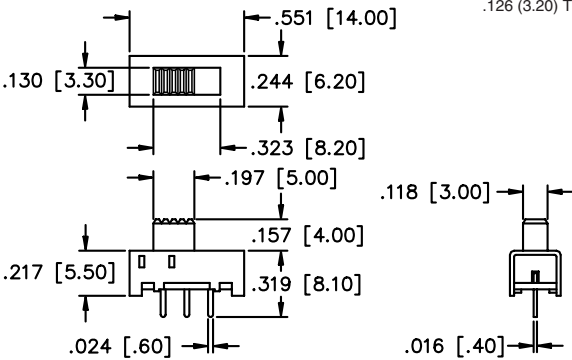
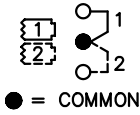
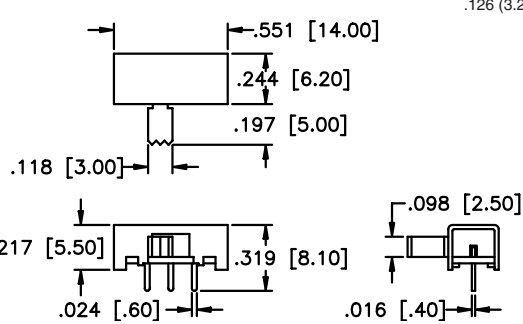
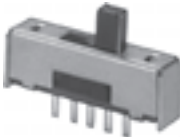
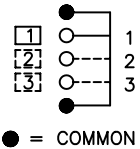
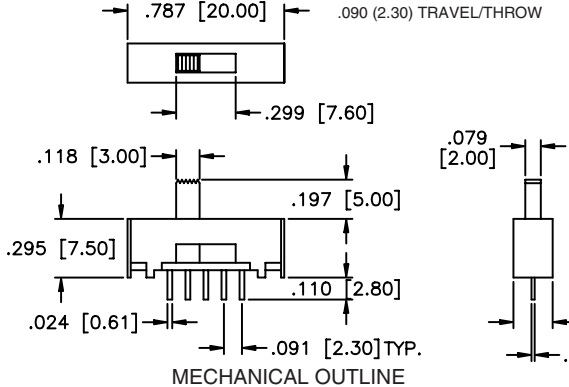
MODEL NO. MHS222  VERTICAL ACTUATOR	2P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MHS223  VERTICAL ACTUATOR	2P2T w/center OFF  OFF 2 3 OFF 3 ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MHS233  VERTICAL ACTUATOR	2P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

SLB Series

(with p.c. board stand-off bracket)

Miniature Slide Switches

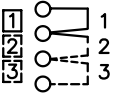
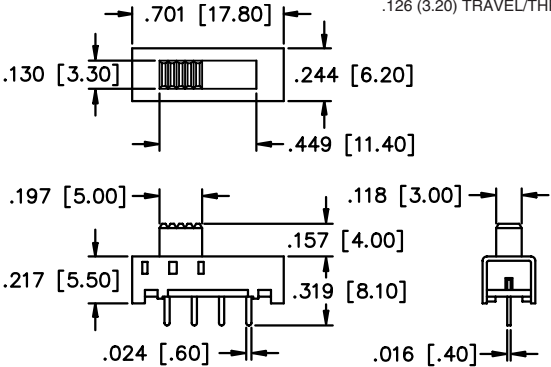
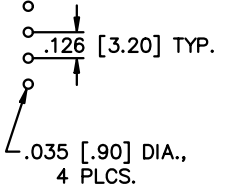
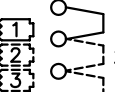
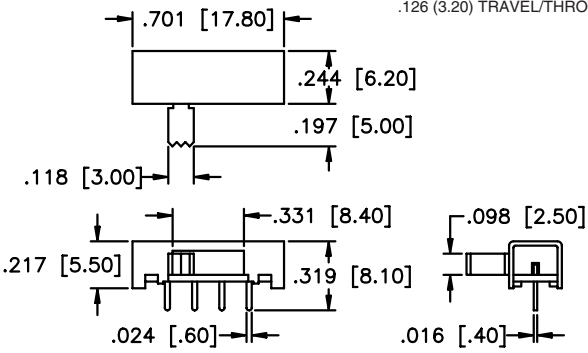
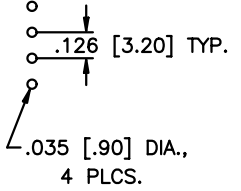
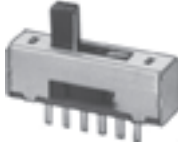
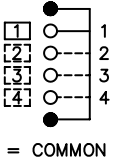
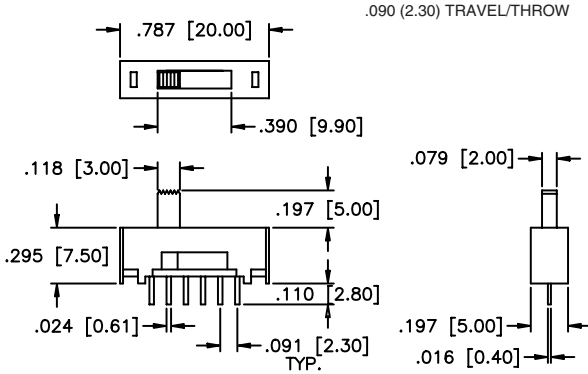
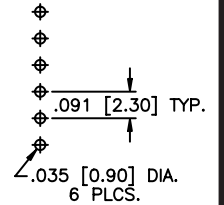
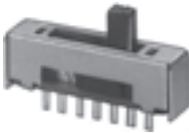
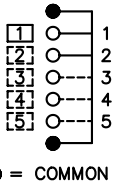
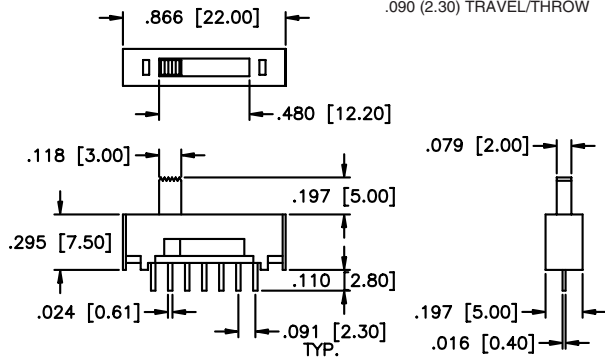
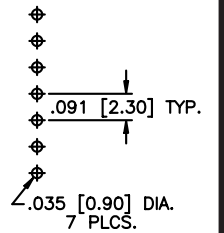
SPECIFICATIONS	FEATURES
Contact ratings: 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Actuation force: 220g ± 100g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Miniature compact size. ● Wash-through open frame construction. ● Positive spring loaded ball detent mechanism. ● Epoxy sealed terminals.
	MATERIALS
	Contacts & terminals: Silver plated Frame: Zinc plated steel Actuator: Thermoplastic Base: Phenolic laminated sheet
	Terminal seal: Epoxy

MODEL NO. SLB12814  VERTICAL ACTUATOR	1P2T  ● = COMMON  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1281R5  RIGHT ANGLE ACTUATOR	1P2T  ● = COMMON  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1370  VERTICAL ACTUATOR	1P3T  ● = COMMON  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

SLB Series

(with p.c. board stand-off bracket)

Miniature Slide Switches

MODEL NO. SLB13814  VERTICAL ACTUATOR	1P3T    SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1381R5  RIGHT ANGLE ACTUATOR	1P3T    SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1470  VERTICAL ACTUATOR	1P4T    SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1570  VERTICAL ACTUATOR	1P5T    SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLB Series

(with p.c. board stand-off bracket)

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO. SLB22814	2P2T VERTICAL ACTUATOR SCHEMATIC ● = COMMON P.C. BOARD LAYOUT
MODEL NO. SLB2281R5	2P2T RIGHT ANGLE ACTUATOR SCHEMATIC ● = COMMON P.C. BOARD LAYOUT
MODEL NO. SLB23814	2P3T VERTICAL ACTUATOR SCHEMATIC P.C. BOARD LAYOUT
MODEL NO. SLB2381R5	2P3T RIGHT ANGLE ACTUATOR SCHEMATIC P.C. BOARD LAYOUT

SLB Series

(with thru- p.c. board hole mounting bracket)

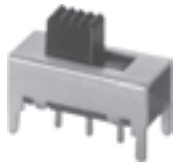
Miniature Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Actuation force: 220g ± 100g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Miniature compact size. ● Wash-through open frame construction. ● Positive spring loaded ball detent mechanism. ● Epoxy sealed terminals.
	MATERIALS
	Contacts & terminals: Silver plated Frame: Zinc plated steel Actuator: Thermoplastic Base: Phenolic laminated sheet Terminal seal: Epoxy

E

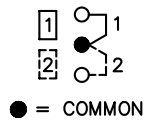
MODEL NO.

SLB12804

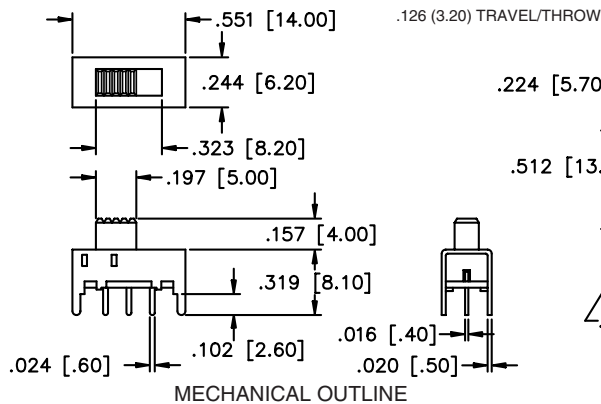


VERTICAL ACTUATOR

1P2T

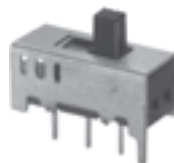


SCHEMATIC



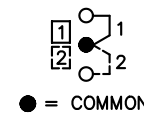
MODEL NO.

SLB124145

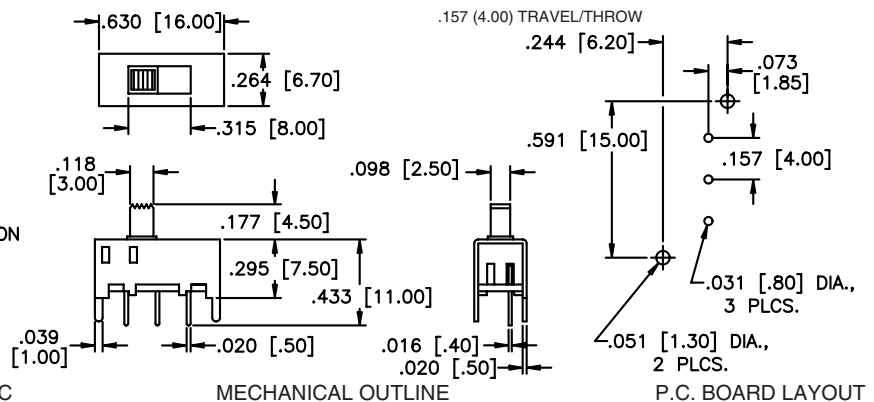


VERTICAL ACTUATOR

1P2T



SCHEMATIC



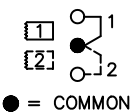
MODEL NO.

SLB1240R45

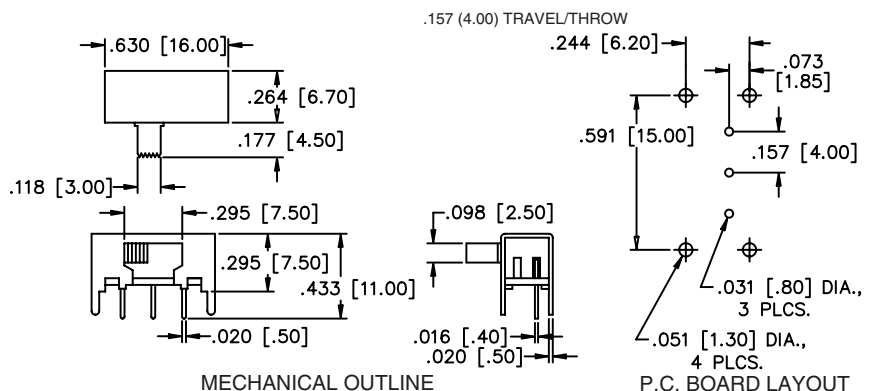


RIGHT ANGLE ACTUATOR

1P2T



SCHEMATIC



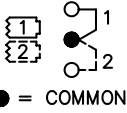
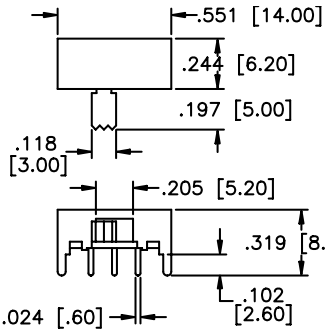
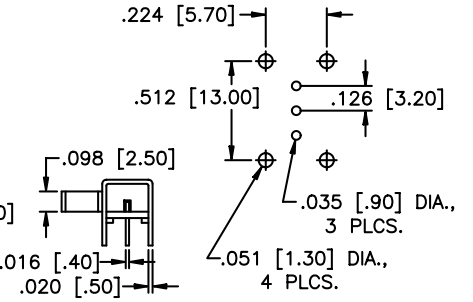
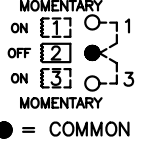
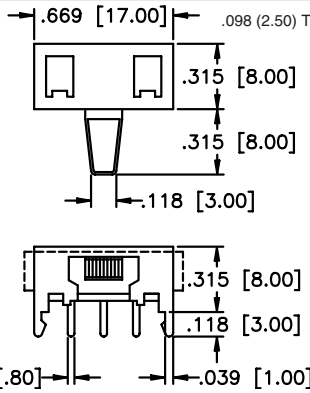
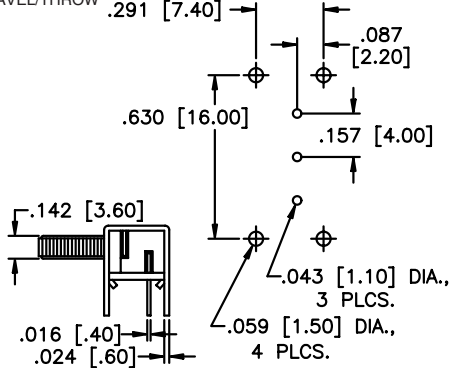
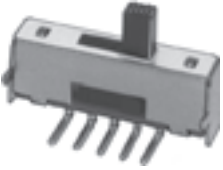
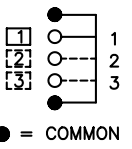
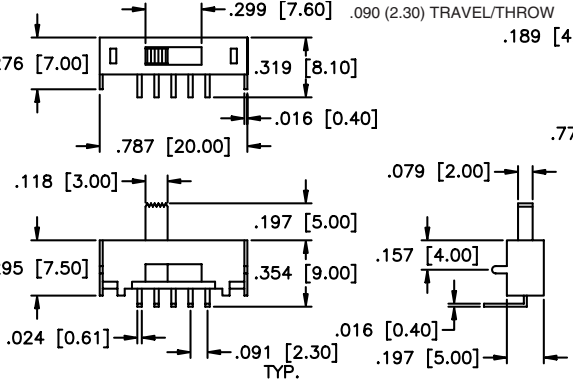
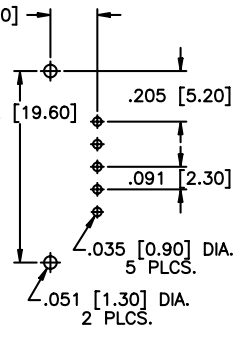
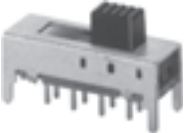
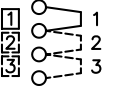
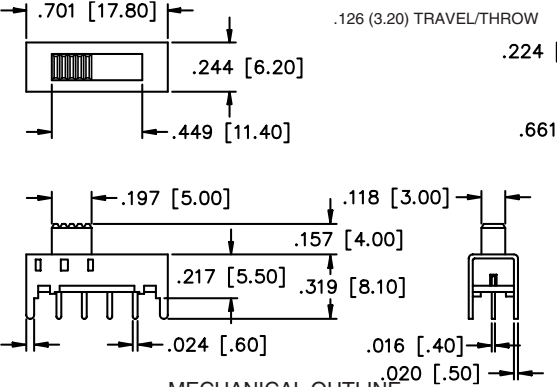
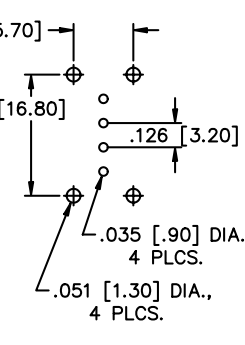
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLB Series

(with thru- p.c. board hole mounting bracket)

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO. SLB1280R5  RIGHT ANGLE ACTUATOR	1P2T  ● = COMMON  .126 (3.20) TRAVEL/THROW  .035 [.90] DIA., 3 PLCS. .051 [1.30] DIA., 4 PLCS. SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1250R8  RIGHT ANGLE ACTUATOR	1P2T  MOMENTARY ON [1] OFF [2] ON [3] MOMENTARY ● = COMMON  .098 (2.50) TRAVEL/THROW  .043 [1.10] DIA., 3 PLCS. .059 [1.50] DIA., 4 PLCS. SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB1370R  RIGHT ANGLE ACTUATOR	1P3T  ● = COMMON  .090 (2.30) TRAVEL/THROW  .035 [.90] DIA., 5 PLCS. .051 [1.30] DIA., 2 PLCS. SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB13804  VERTICAL ACTUATOR	1P3T   .126 (3.20) TRAVEL/THROW  .035 [.90] DIA., 4 PLCS. .051 [1.30] DIA., 4 PLCS. SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

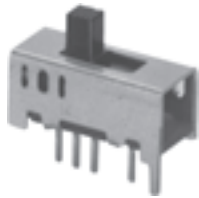
SLB Series

(with thru-p.c. board hole mounting bracket)

Miniature Slide Switches

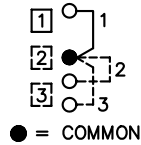
MODEL NO.

SLB134145

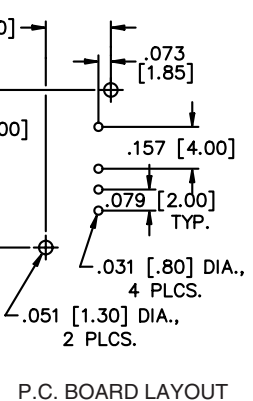
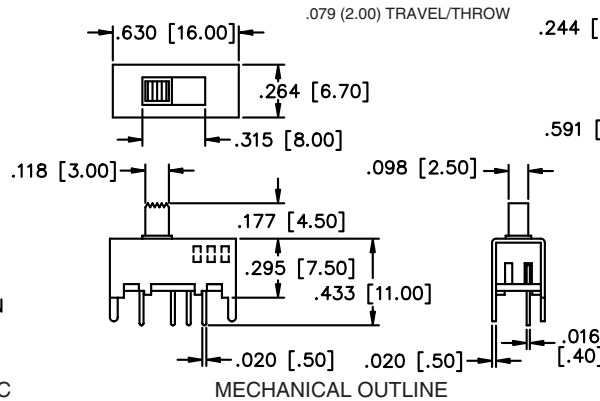


VERTICAL ACTUATOR

1P3T



SCHEMATIC



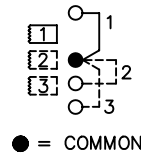
MODEL NO.

SLB1340R45

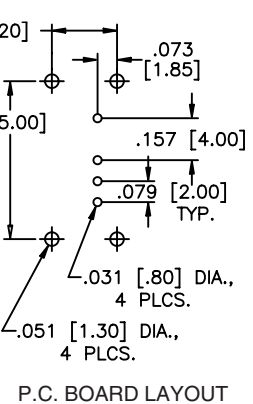
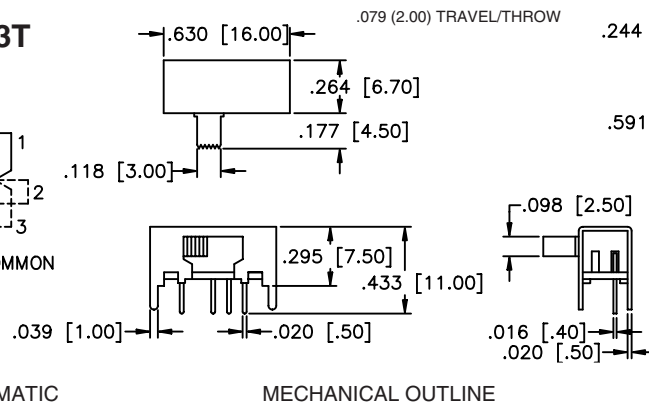


RIGHT ANGLE ACTUATOR

1P3T



SCHEMATIC



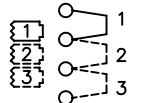
MODEL NO.

SLB1380R5

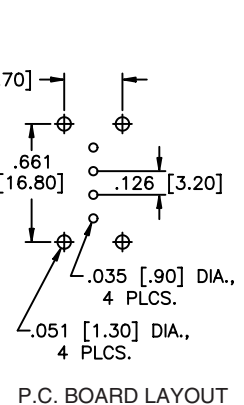
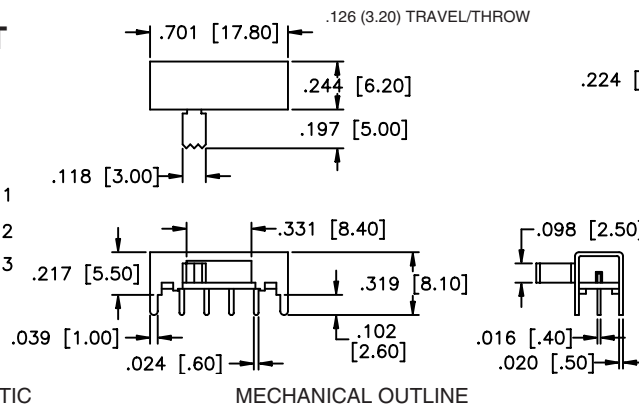


RIGHT ANGLE ACTUATOR

1P3T

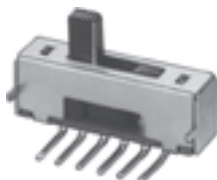


SCHEMATIC



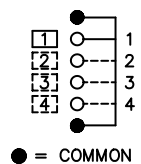
MODEL NO.

SLB1470R

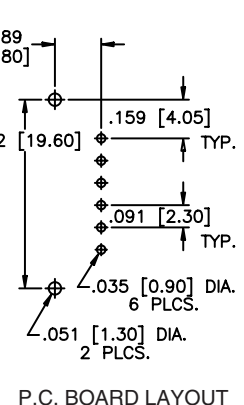
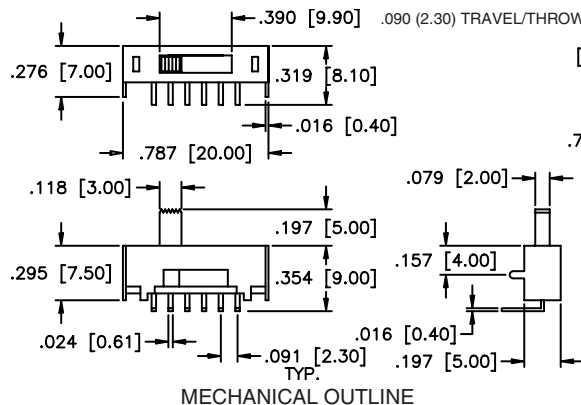


RIGHT ANGLE ACTUATOR

1P4T



SCHEMATIC

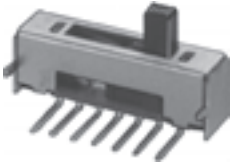
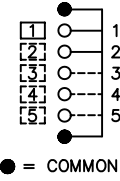
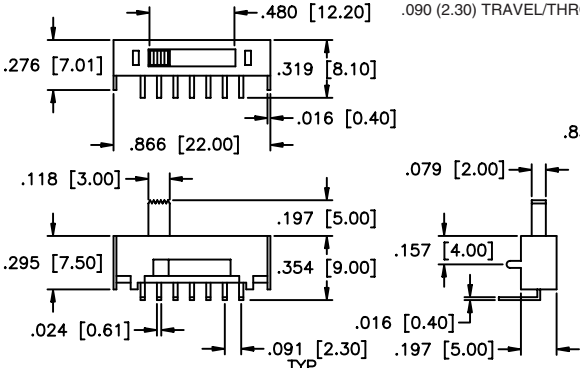
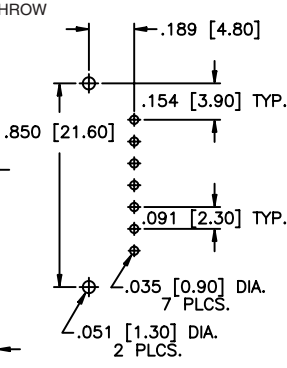
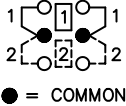
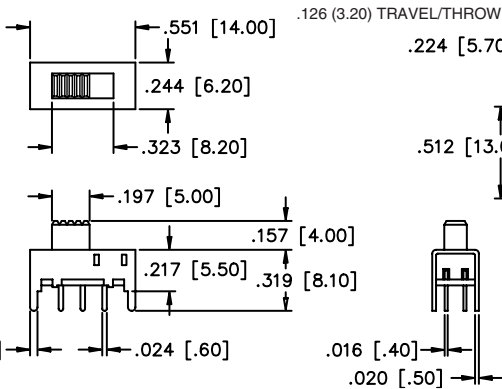
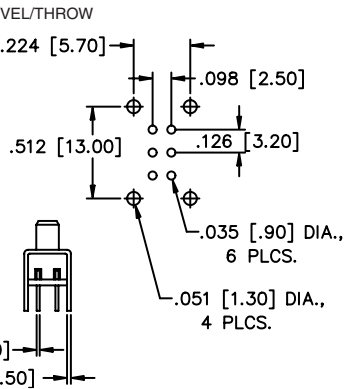
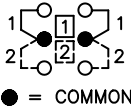
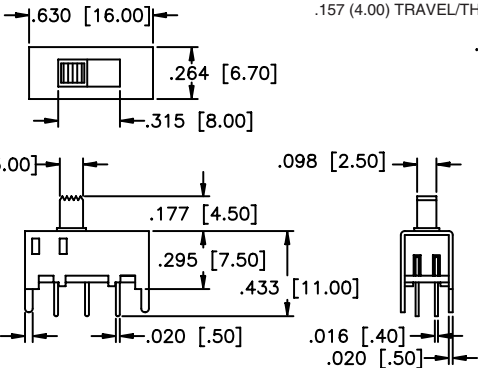
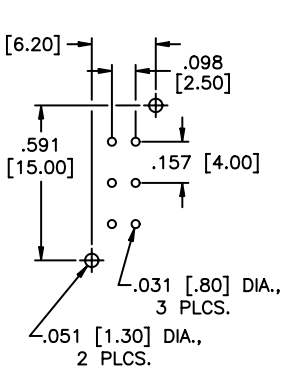
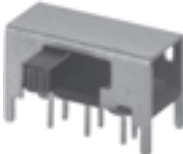
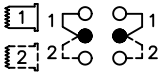
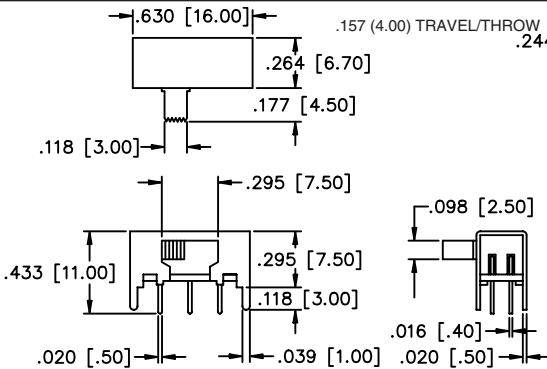
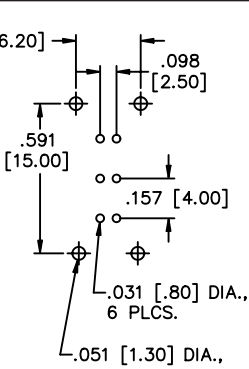


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLB Series

(with thru-p.c. board hole mounting bracket)

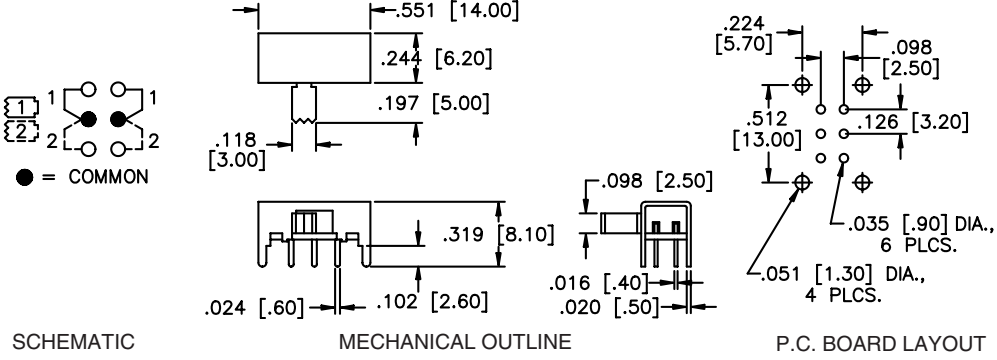
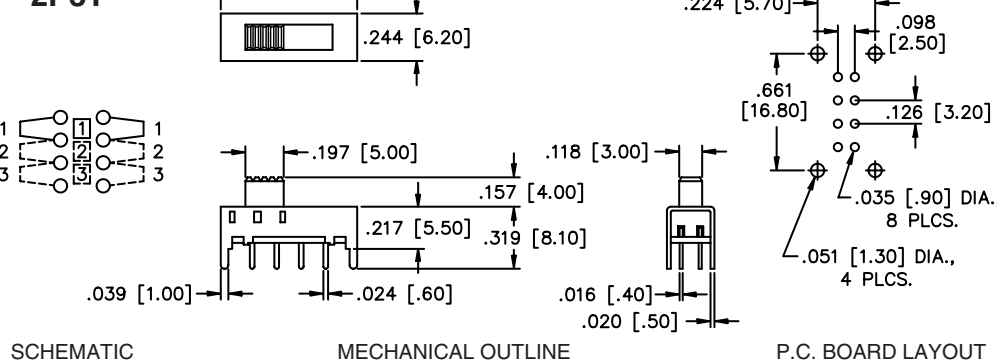
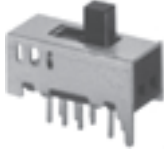
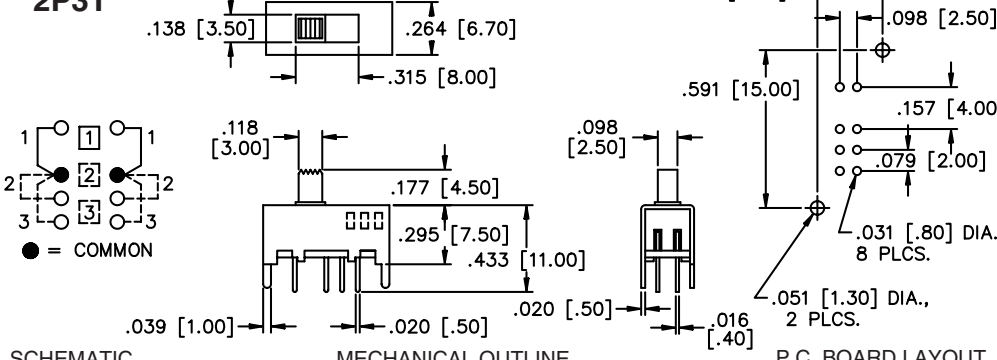
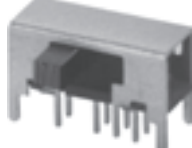
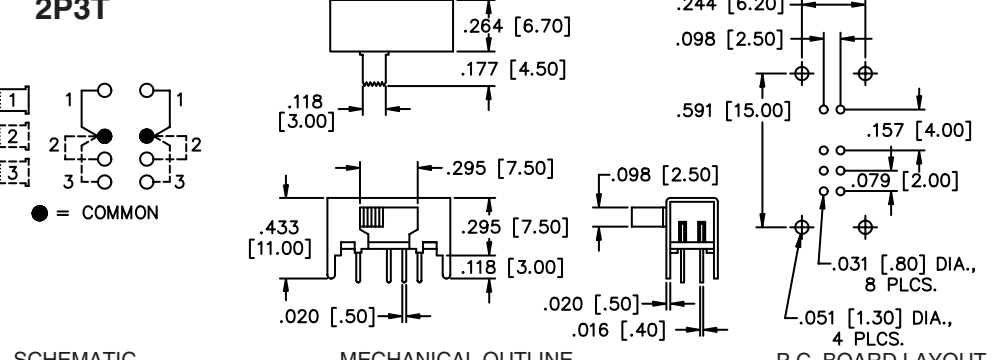
Miniature Slide Switches

MODEL NO. SLB1570R  RIGHT ANGLE ACTUATOR	1P5T  SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. SLB22804  VERTICAL ACTUATOR	2P2T  SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. SLB224145  VERTICAL ACTUATOR	2P2T  SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. SLB2240R45  RIGHT ANGLE ACTUATOR	2P2T  SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

SLB Series

(with thru-p.c. board hole mounting bracket)
Miniature Slide Switches

E

MODEL NO. SLB2280R5  RIGHT ANGLE ACTUATOR	2P2T .126 (3.20) TRAVEL/THROW  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB23804  VERTICAL ACTUATOR	2P3T .126 (3.20) TRAVEL/THROW  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB234145  VERTICAL ACTUATOR	2P3T .126 (3.20) TRAVEL/THROW  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLB2340R45  RIGHT ANGLE ACTUATOR	2P3T .079 (2.00) TRAVEL/THROW  SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLC Series

Miniature Slide Switches

SPECIFICATIONS

Contact ratings: 300 mA at 125 VAC or 30 VDC
Initial contact resistance: 20 milliohms max.
Insulation resistance: 100 megohms min. at 500 VDC
Dielectric strength: 500 volts RMS for 1 minute
Electrical life: 10,000 cycles min.
Operating temperature range: -20°C to +85°C
Actuation force: 220g ± 100g
Solder heat resistance: 260°C max. for 3 seconds
Solvent washing permissible

FEATURES

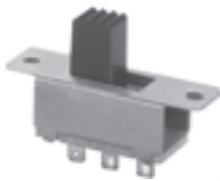
- Panel mounting with solder lug terminals.
- Wash-through open frame construction.
- Positive spring loaded ball detent mechanism.

MATERIALS

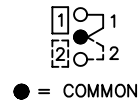
Contacts & terminals: Silver plated
Frame: Zinc plated steel
Actuator: Thermoplastic
Base: Phenolic laminated sheet

MODEL NO.

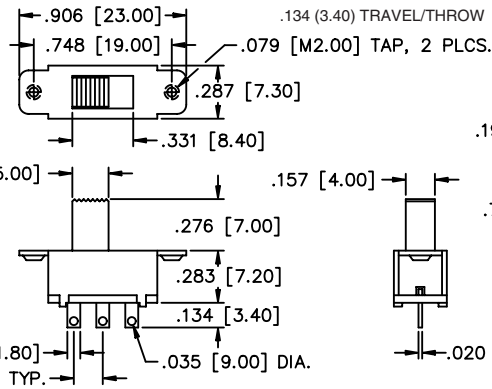
SLC12007



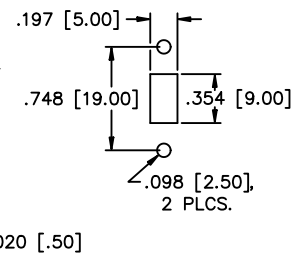
1P2T



SCHEMATIC



MECHANICAL OUTLINE



PANEL CUTOUT

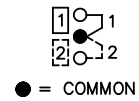
MODEL NO.

SLC120025

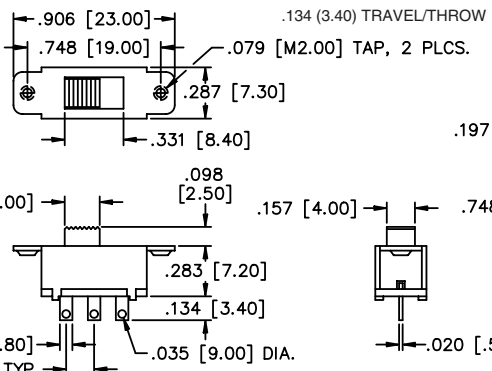
New!



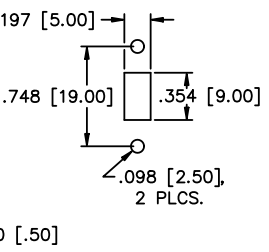
1P2T



SCHEMATIC



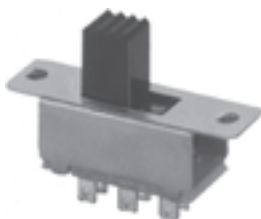
MECHANICAL OUTLINE



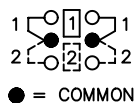
PANEL CUTOUT

MODEL NO.

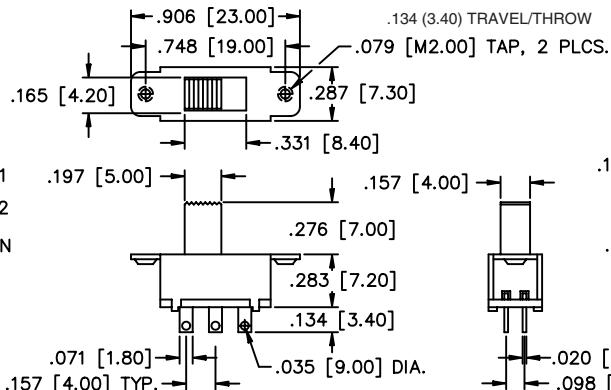
SLC22007



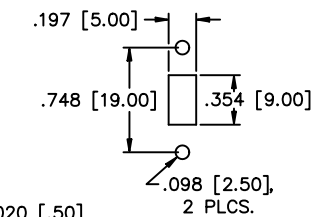
2P2T



SCHEMATIC



MECHANICAL OUTLINE



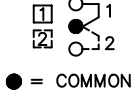
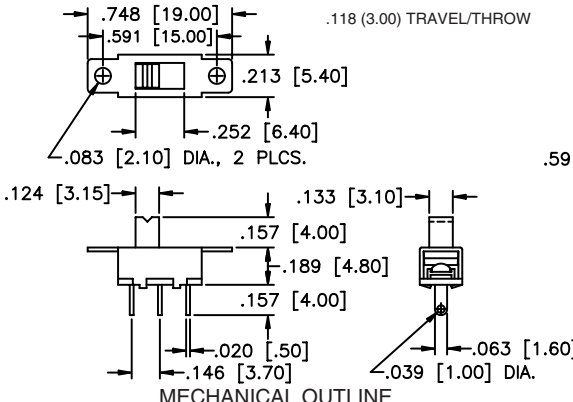
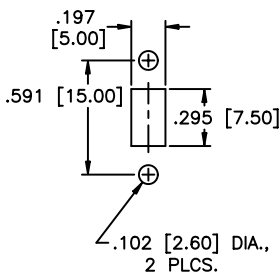
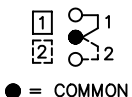
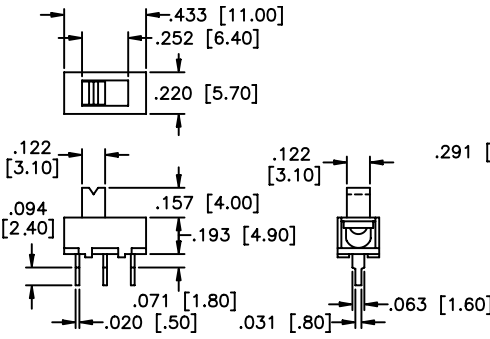
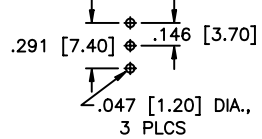
PANEL CUTOUT

SLG Series

Miniature Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Actuation force: 200g ± 75g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Wash-through open frame construction. ● Panel and p.c. mounting models. ● Positive spring loaded ball detent mechanism.
	MATERIALS
	Contacts & terminals: Silver plated Frame: Zinc plated steel Actuator: Thermoplastic Base: Phenolic laminated sheet

E

MODEL NO. SLG12004	1P2T    SCHEMATIC MECHANICAL OUTLINE PANEL CUTOUT
MODEL NO. SLG12014	1P2T    SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
VERTICAL MOUNTING	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SLA Series

Miniature Slide Switches

SPECIFICATIONS

Contact ratings: 500 mA at 125 VAC
Initial contact resistance: 20 milliohms max.
Insulation resistance: 100 megohms min. at 500 VDC
Dielectric strength: 500 volts RMS for 1 minute
Electrical life: 10,000 cycles min.
Operating temperature range: -20°C to +85°C
Actuation force: 350g ± 200g
Solder heat resistance: 260°C max. for 3 seconds
Solvent washing permissible

FEATURES

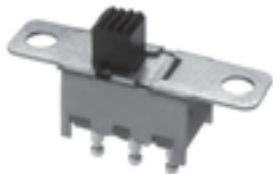
- Miniature compact size.
- Wash-through open frame construction.
- Panel and p.c. mounting models.

MATERIALS

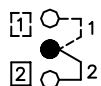
Contacts & terminals: Silver plated brass
Frame: Zinc plated steel
Actuator: PBT Thermoplastic
Base: Phenolic laminated sheet

MODEL NO.

SLA1200

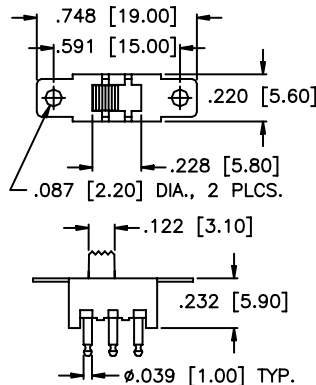


1P2T



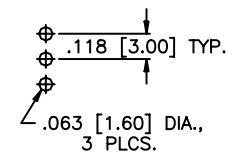
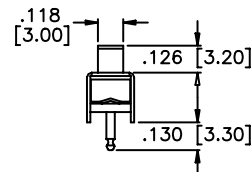
● = COMMON

SCHEMATIC



MECHANICAL OUTLINE

.106 (2.70) TRAVEL/THROW



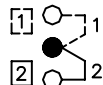
P.C. BOARD LAYOUT

MODEL NO.

SLA1201

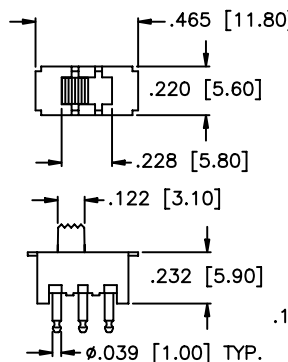


1P2T



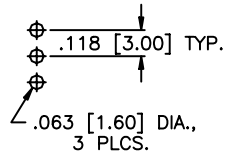
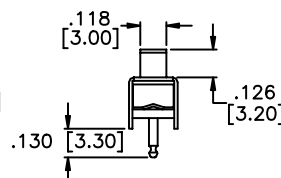
● = COMMON

SCHEMATIC



MECHANICAL OUTLINE

.106 (2.70) TRAVEL/THROW



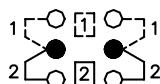
P.C. BOARD LAYOUT

MODEL NO.

SLA2200

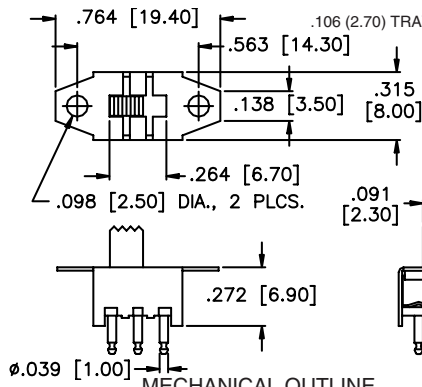


2P2T



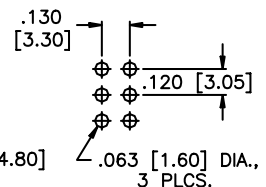
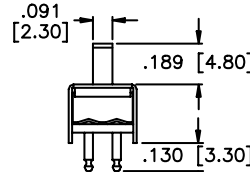
● = COMMON

SCHEMATIC



MECHANICAL OUTLINE

.106 (2.70) TRAVEL/THROW



P.C. BOARD LAYOUT

MODEL NO. SLA2201	2P2T SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
------------------------------------	---

SLE Series

Miniature Slide Switches

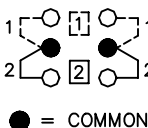
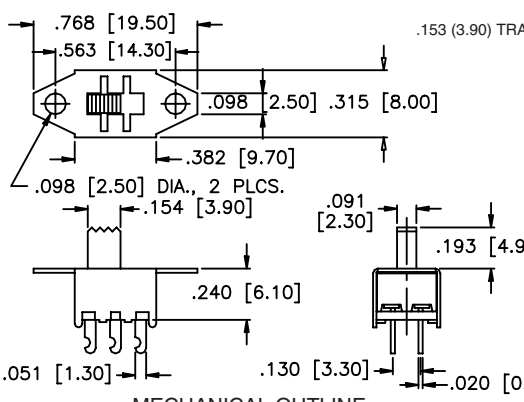
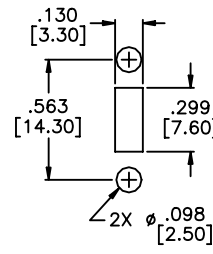
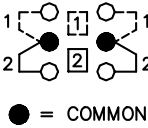
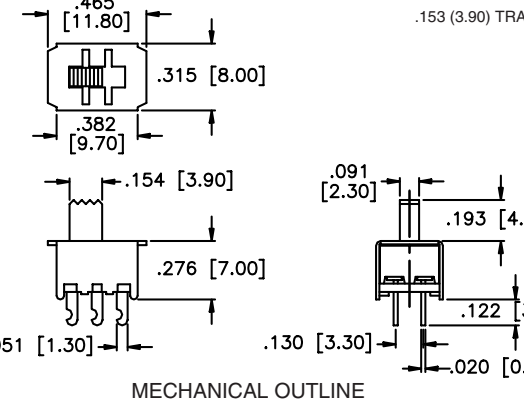
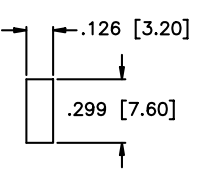
SPECIFICATIONS	FEATURES
Contact ratings: 500 mA at 125 VAC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS for 1 minute Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +85°C Actuation force: 350g ± 200g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Miniature compact size. ● Wash-through open frame construction. ● Panel and p.c. mounting models. MATERIALS Contacts & terminals: Silver plated brass Frame: Zinc plated steel Actuator: PBT Thermoplastic Base: Phenolic laminated sheet

MODEL NO. SLE1200	1P2T SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLE1201	1P2T SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

SLE Series

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO. SLE2200	2P2T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO. SLE2201	2P2T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

E

G Series

Instrument Grade Miniature Slide Switches

SPECIFICATIONS

Contact ratings:

Gold; 0.4 Volt-Amps (VA) max. at 20 V max. (AC or DC)

Silver; 4 A at 125 VAC, 2 A at 250 VAC or 3 A at 30 VDC

Initial contact resistance: 10 milliohms max.

Insulation resistance: 1000 megohms min.

Dielectric strength: 1000 V rms min.

Electrical life w/resistive load: Gold; 60,000 cycles min.

Silver; 2 pos. - 40,000 cycles, 3 pos. - 20,000 cycles

Operating temperature range: -30°C to +85°C

Solder heat resistance: 300°C max. for 5 seconds

Washing not recommended

FEATURES

- Epoxy sealed terminals.
- Break-before-make contact action.
- SPDT and DPDT models with long electrical life.
- Many additional models & options available (see page E44).

MATERIALS

Contacts & terminals: Gold or silver available (see contact ratings)

Cover: Stainless steel

Actuator: Glass filled polyamide

Case: PES high temp. thermoplastic **Terminal seal:** Epoxy

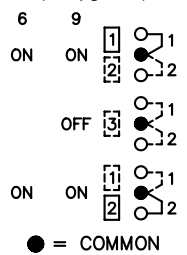
E

MODEL NO.	PLATING	ACTION
GH36S000001	Gold	on - on
GH39S000001	Gold	on off on
GH36S010001	Silver	on - on
GH39S010001	Silver	on off on

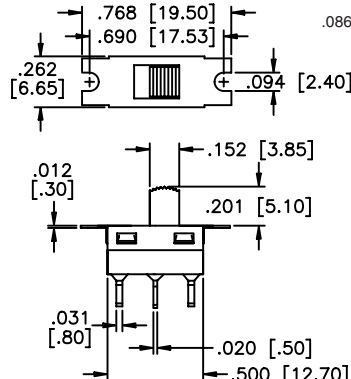


SPDT

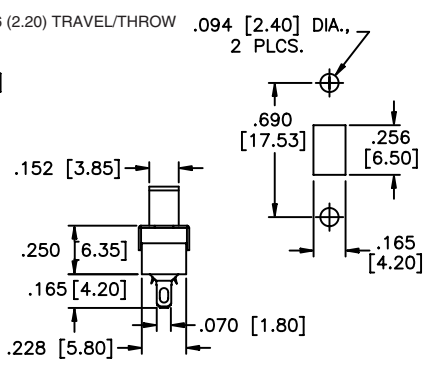
Function
(see pg. E46)



SCHEMATIC



MECHANICAL OUTLINE



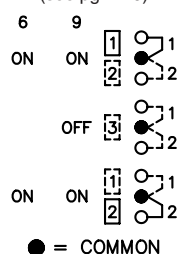
PANEL CUTOUT

MODEL NO.	PLATING	ACTION
GH36P000001	Gold	on - on
GH39P000001	Gold	on off on
GH36P010001	Silver	on - on
GH39P010001	Silver	on off on

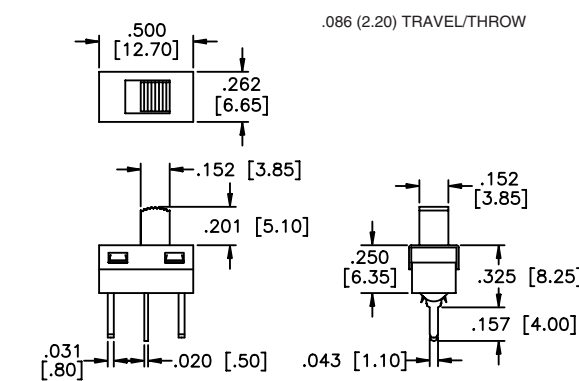


SPDT

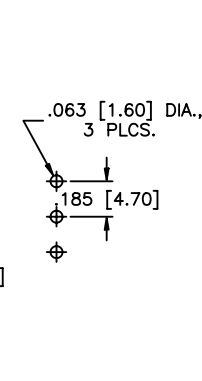
Function
(see pg. E46)



SCHEMATIC



MECHANICAL OUTLINE



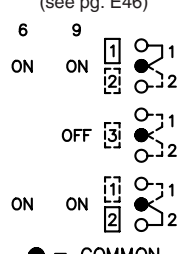
P.C. BOARD LAYOUT

MODEL NO.	PLATING	ACTION
GH36W000001	Gold	on - on
GH39W000001	Gold	on off on
GH36W010001	Silver	on - on
GH39W010001	Silver	on off on

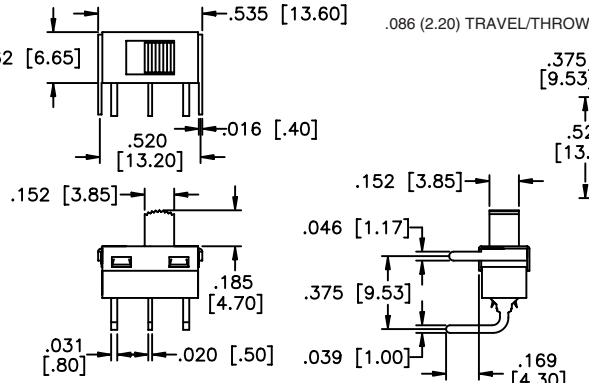


SPDT

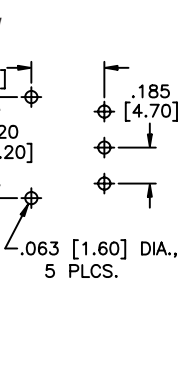
Function
(see pg. E46)



SCHEMATIC



MECHANICAL OUTLINE



P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

G Series

Instrument Grade Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

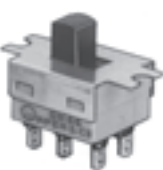
MODEL NO.	PLATING	ACTION	SPDT			
GH36WW00001	Gold	on - on	Function (see pg. E46) 6 9 ON ON OFF ON ON ● = COMMON		 .500 [12.70] .086 (2.20) TRAVEL/THROW .046 [1.17] .262 [6.65] .110 [2.80] .152 [3.85] .185 [4.70] .016 [.40] .031 [.80] .152 [3.85] .043 [1.10]	 .063 [1.60] DIA., 5 PLCS. .150 [3.81] .400 [10.16] .175 [4.45]
GH39WW00001	Gold	on off on				
GH36WW10001	Silver	on - on				
GH39WW10001	Silver	on off on				
MODEL NO.	PLATING	ACTION	SPDT			
GH36Y000001	Gold	on - on	Function (see pg. E46) 6 9 ON ON OFF ON ON ● = COMMON		 .638 [16.20] .086 (2.20) TRAVEL/THROW .295 [7.50] .152 [3.85] .185 [4.70] .031 [.80] .020 [.50] .016 [.40] .152 [3.85] .547 [13.90] .185 [4.70] .046 [1.17]	 .125 [3.18] .620 [15.75] .185 [4.70] .063 [1.60] DIA., 7 PLCS.
GH39Y000001	Gold	on off on				
GH36Y010001	Silver	on - on				
GH39Y010001	Silver	on off on				
MODEL NO.	PLATING	ACTION	SPDT			
GH36Y400001	Gold	on - on	Function (see pg. E46) 6 9 ON ON OFF ON ON ● = COMMON		 .638 [16.20] .086 (2.20) TRAVEL/THROW .295 [7.50] .152 [3.85] .185 [4.70] .031 [.80] .020 [.50] .016 [.40] .152 [3.85] .722 [18.35] .185 [4.70] .046 [1.17]	 .128 [3.18] .185 [4.70] .620 [15.75] .063 [1.60] DIA., 7 PLCS.
GH39Y400001	Gold	on off on				
GH36Y410001	Silver	on - on				
GH39Y410001	Silver	on off on				
ACTUATOR POSITION AND CONNECTIONS (FOR BOTH SP & DP MODELS)			SOLDER LUG TERMINAL			
Function 6	ON	NONE	ON	 .165 [4.20] .074 [1.90] .043 [1.10] .070 [1.80]		
Function 9	ON	OFF	ON	 .232 [5.90] .157 [4.00] .043 [1.10]		
			P.C. TERMINAL			
			 .232 [5.90] .157 [4.00] .043 [1.10]			

E

G Series

Instrument Grade Miniature Slide Switches

E

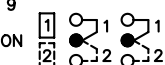
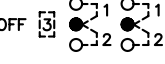
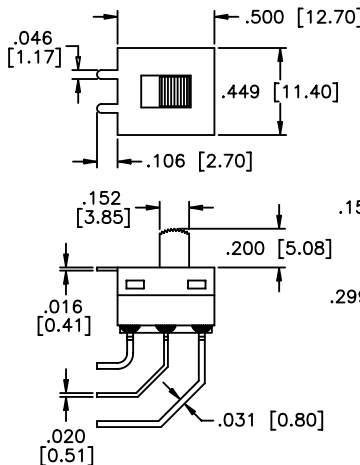
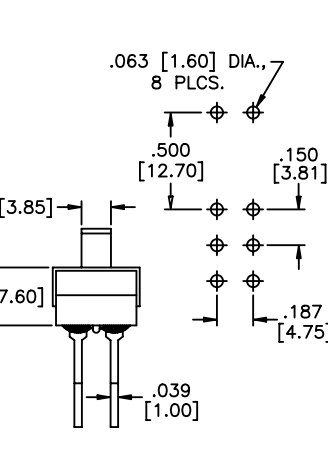
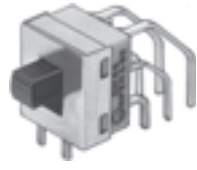
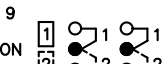
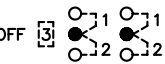
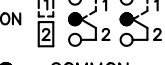
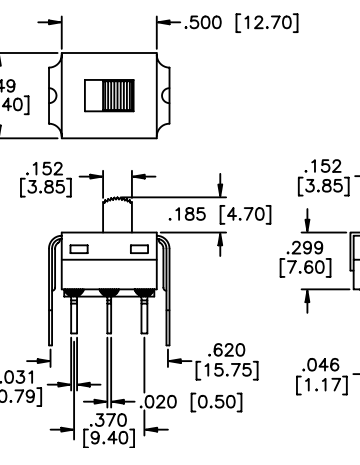
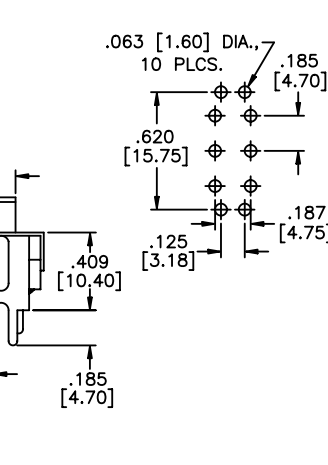
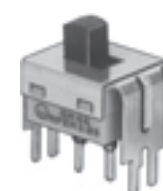
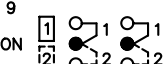
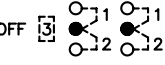
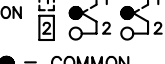
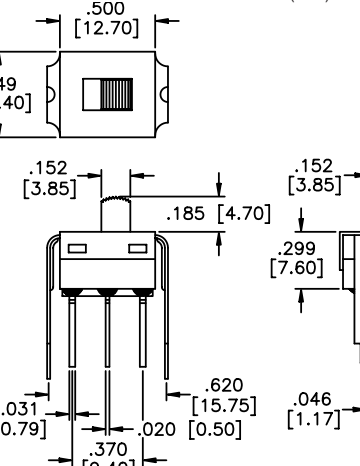
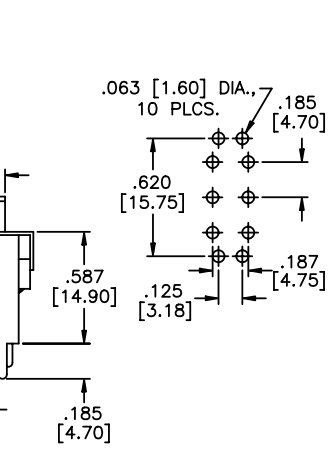
MODEL NO.	PLATING	ACTION	DPDT	
GH46S000001	Gold	on - on	Function (see pg. E46) 6 ON ON 9 OFF OFF ON ON ● = COMMON	
GH49S000001	Gold	on off on		
GH46S010001	Silver	on - on		
GH49S010001	Silver	on off on		
				
				.086 (2.20) TRAVEL/THROW SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	PLATING	ACTION	DPDT	
GH46P000001	Gold	on - on	Function (see pg. E46) 6 ON ON 9 OFF OFF ON ON ● = COMMON	
GH49P000001	Gold	on off on		
GH46P010001	Silver	on - on		
GH49P010001	Silver	on off on		
				
				.086 (2.20) TRAVEL/THROW SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	PLATING	ACTION	DPDT	
GH46W000001	Gold	on - on	Function (see pg. E46) 6 ON ON 9 OFF OFF ON ON ● = COMMON	
GH49W000001	Gold	on off on		
GH46W010001	Silver	on - on		
GH49W010001	Silver	on off on		
				
				.086 (2.20) TRAVEL/THROW SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

G Series

Instrument Grade Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	PLATING	ACTION	DPDT	.086 (2.20) TRAVEL/THROW
GH46WW00001	Gold	on - on	Function (see pg. E46) 6 9 ON ON  OFF  ON ON  ● = COMMON	 
GH49WW00001	Gold	on off on		
GH46WW10001	Silver	on - on		
GH49WW10001	Silver	on off on		
				
MODEL NO.	PLATING	ACTION	DPDT	.086 (2.20) TRAVEL/THROW
GH46Y000001	Gold	on - on	Function (see pg. E46) 6 9 ON ON  OFF  ON ON  ● = COMMON	 
GH49Y000001	Gold	on off on		
GH46Y010001	Silver	on - on		
GH49Y010001	Silver	on off on		
				
MODEL NO.	PLATING	ACTION	DPDT	.086 (2.20) TRAVEL/THROW
GH46Y400001	Gold	on - on	Function (see pg. E46) 6 9 ON ON  OFF  ON ON  ● = COMMON	 
GH49Y400001	Gold	on off on		
GH46Y410001	Silver	on - on		
GH49Y410001	Silver	on off on		
				

E

G Series

Instrument Grade

Miniature Slide Switches

Additional ordering information: Commonly ordered models are shown on pgs. E40 thru E43 with complete specifications. Below is an ordering format that enables you to 'build your own switch' by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in all boxes shown with options selected from below.
Allowable options for each box are shown under each respective box.

Series	Actuator Height	Poles	Function	Terminals	Contact & Term. Mat'l.	Special Option 1	Special Option 2
G							
	B*	3	6	S 0	0	0 0	0 0
	C	4	9	P 0	1	1 0	0 1
	E*			W 0	2	1 1	1 0
	H			WW	5	1 2	1 1
	L*			Y 0	8		
	N			Y 4			

* indicates Actuator options B, E & L are available for single pole models only .

Actuators heights: Dimensions in inches and millimeters. H is standard.

B = .301" (7.65mm) C = .137" (3.50mm) E = .358" (9.10mm)
H = .200" (5.10mm) for S0 & P0 and .185" (4.70mm) for Y, Y4, W0 & WW
L = .251" (6.40mm) N = .374" (9.50mm)

Poles: 3 = Single Pole 4 = Double Pole
Functions: 6 = ON - ON 9 = ON OFF ON

Terminals: See completely specified models in prior section for configurations and dimensions.

S0 = Solder lugs
P0 = .250" (6.35mm) long Printed circuit terminals
W0 = Right angle horizontal p.c. terminals with mounting bracket
WW = Right angle vertical p.c. terminals with mounting bracket
Y0 = P.C. terminals with short bracket
Y4 = P.C. terminals with tall bracket

Contact & terminal materials: See contact ratings under "specifications".

0 = Gold plated brass

1 = Silver
2 = Gold plated silver
5 = Special contact with lower rating
8 = Gold plated brass contacts with tin plated terminals (not available w/SO)

Special options 1:

00 = Standard model
10 = Switch without ground plate
11 = .407" (10.35mm) long printed circuit terminals
12 = Same as 11 except without ground plate

Special options 2:

00 = No epoxy seal (for printed circuit terminals only as S0 (solder lug) terminals are always sealed)
01 = Epoxy sealed terminals (standard on solder lug models)
10 = Extended terminals for WW models (see figure 1)
11 = Same as 10 above except with epoxy sealed terminals

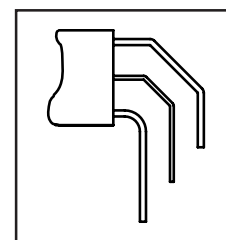


figure 1

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

E

APEM, PO BOX 8288, HAVERHILL, MA USA 01835-0788 TOLL FREE: (877) 246-7890 FAX: (781) 245-4531 E-mail: info@apem.com E45

25000N Series

Miniature Slide Switches

E

MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25346NLD 25349NLD 25346NA 25349NA	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51) ● = COMMON	MECHANICAL OUTLINE	TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80) P.C. BOARD LAYOUT
			RIGHT ANGLE ACTUATOR		
MODEL NO.	PLATING	ACTION	SINGLE POLE FLUSH ACTUATOR		
25436NLDB 25439NLDB 25436NAB 25439NAB	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51) ● = COMMON	MECHANICAL OUTLINE	TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80) P.C. BOARD LAYOUT
			VERTICAL ACTUATOR		
MODEL NO.	PLATING	ACTION	SINGLE POLE		
25536NLD 25539NLD 25536NA 25539NA	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51) ● = COMMON	MECHANICAL OUTLINE	TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80) P.C. BOARD LAYOUT
			RIGHT ANGLE ACTUATOR		
MODEL NO.	PLATING	ACTION	DOUBLE POLE FLUSH ACTUATOR		
25446NLDB 25449NLDB 25446NAB 25449NAB	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51) ● = COMMON	MECHANICAL OUTLINE	TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80) P.C. BOARD LAYOUT
			VERTICAL ACTUATOR		

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

25000N Series

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25546NLD 25549NLD 25546NA 25549NA	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51)		TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150
RIGHT ANGLE ACTUATOR			SCHMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT		
MODEL NO.	PLATING	ACTION	SINGLE POLE		
25136NLDH 25139NLDH 25136NAH 25139NAH	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51)		TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150
VERTICAL ACTUATOR			SCHMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT		
MODEL NO.	PLATING	ACTION	SINGLE POLE		
25336NLD6 25339NLD6 25336NA6 25339NA6	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51)		TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80)
RIGHT ANGLE ACTUATOR			SCHMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT		
MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25146NLDH 25149NLDH 25146NAH 25149NAH	Gold Gold Silver Silver	on - on on off on on - on on off on	Function (see pg. E51)		TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80)
VERTICAL ACTUATOR			SCHMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT		

E

25000N Series

Miniature Slide Switches

E

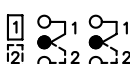
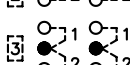
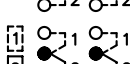
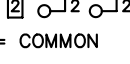
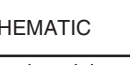
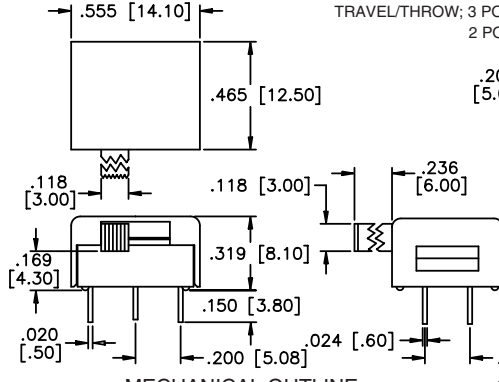
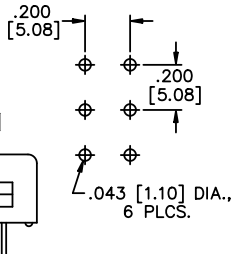
MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25346NLD6	Gold	on - on	Function (see pg. E51) ON ON 1 1 2 2 OFF 3 1 1 2 2 ON ON 1 1 2 2 ● = COMMON		
25349NLD6	Gold	on off on			
25346NA6	Silver	on - on			
25349NA6	Silver	on off on			
RIGHT ANGLE ACTUATOR			SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
MODEL NO.	PLATING	ACTION	SINGLE POLE		
25436NLDH	Gold	on - on	Function (see pg. E51) ON ON 1 1 2 2 OFF 3 1 1 2 2 ON ON 1 1 2 2 ● = COMMON		
25439NLDH	Gold	on off on			
25436NAH	Silver	on - on			
25439NAH	Silver	on off on			
VERTICAL ACTUATOR			SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
MODEL NO.	PLATING	ACTION	SINGLE POLE		
25536NLD6	Gold	on - on	Function (see pg. E51) ON ON 1 1 2 2 OFF 3 1 1 2 2 ON ON 1 1 2 2 ● = COMMON		
25539NLD6	Gold	on off on			
25536NA6	Silver	on - on			
25539NA6	Silver	on off on			
RIGHT ANGLE ACTUATOR			SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25446NLDH	Gold	on - on	Function (see pg. E51) ON ON 1 1 2 2 OFF 3 1 1 2 2 ON ON 1 1 2 2 ● = COMMON		
25449NLDH	Gold	on off on			
25446NAH	Silver	on - on			
25449NAH	Silver	on off on			
VERTICAL ACTUATOR			SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

25000N Series

Miniature Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	PLATING	ACTION	DOUBLE POLE		
25546NLD6	Gold	on - on	Function (see pg. below) 6 ON ON  9 ON ON  OFF OFF  ON ON  ON ON  ● = COMMON		TRAVEL/THROW; 3 POSITION - .078 (2.00) 2 POSITION - .150 (3.80) 
25549NLD6	Gold	on off on			
25546NA6	Silver	on - on			
25549NA6	Silver	on off on			
 RIGHT ANGLE ACTUATOR			SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT

Additional ordering information: Commonly ordered models are shown above and on preceeding pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes shown with options selected from below.
 Allowable options for each box are shown under each respective box.

Series	Actuator/ Term. Spacing	Poles	Functions	Version	*Contact & Term. Mat'l.	*Actuators	Approvals
2 5							
	1	3	6	N	A	B	(NONE)
	4	4	9		L D	H	X 6 9 3 U L
	3					H 6	
	5					6	

* If a single suffix selection is chosen from the **Contact & Term. Mat'l.** or **Actuator** categories above, eliminate the extra box.

Actuator/Terminal spacing: Dimensions in inches and millimeters.
 1 = Vertical actuator and .100" (2.54mm) terminal spacing
 4 = Vertical actuator and .200" (5.08mm) terminal spacing
 3 = Side actuator and .100" (2.54mm) terminal spacing
 5 = Side actuator and .200" (5.08mm) terminal spacing

Poles: 3 = Single Pole 4 = Double Pole

Functions: 6 = ON - ON 9 = ON OFF ON

Version: N = Version specification (Specify for all models)

Contact & terminal materials: See contact ratings under "specifications". A = Silver LD = Gold plated brass

Actuators: Dimensions in inches and millimeters.
 B = Flush vertical actuator
 H = Vertical actuator .110" (2.80mm) high
 H6 = Vertical actuator .236" (6.00mm) high
 6 = Side actuator .236" (6.00mm) long
Note: If **Actuator** boxes are not used, a side actuator .090" (2.30mm) long will be supplied.

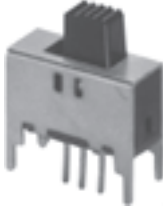
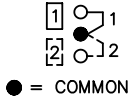
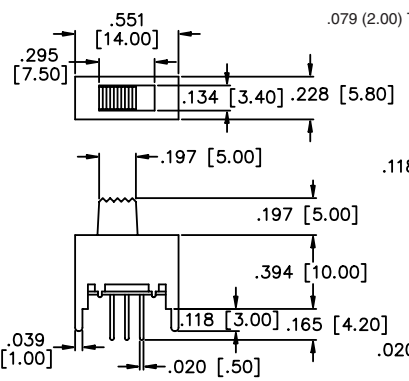
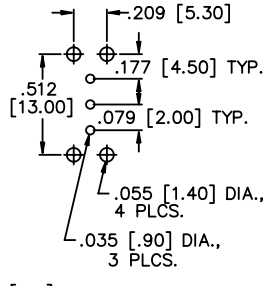
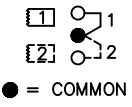
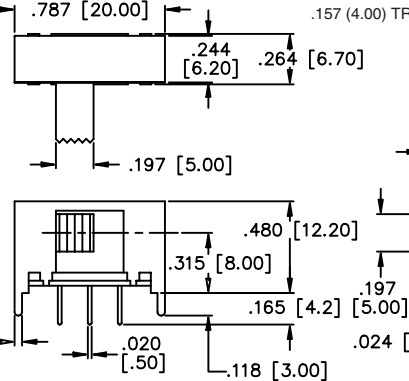
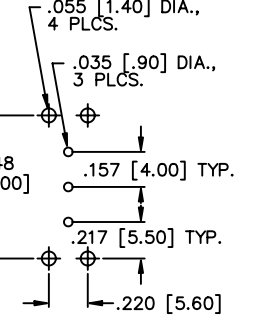
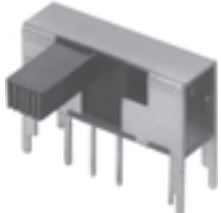
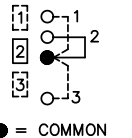
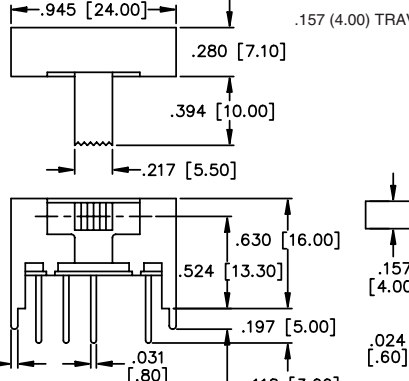
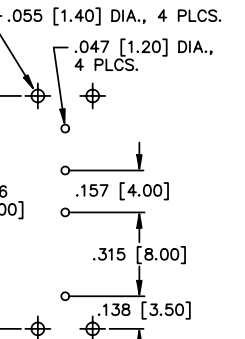
Approvals: X693UL = Switches recognized and marked UL - silver (A) contacts only.

MSS Series

Standard Size Slide Switches

SPECIFICATIONS	FEATURES
Contact ratings: Gold; 0.4 Volt-Amps (VA) max. at 20 V max. (AC or DC) Silver; 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS at sea level Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Bifurcated wiping contact design. ● Epoxy sealed terminals. ● Wash-through open frame construction. ● Reinforcing mounting legs.
MATERIALS	
Contacts & terminals: Gold or silver available (see contact ratings) Housing: Tin/lead plated steel Base: Phenolic laminated sheet	Actuator: Thermoplastic Terminal seal: Epoxy

E

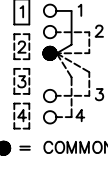
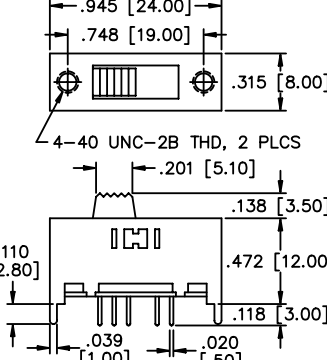
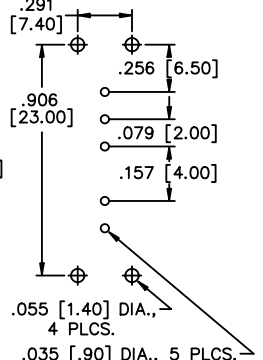
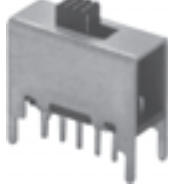
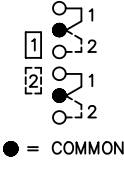
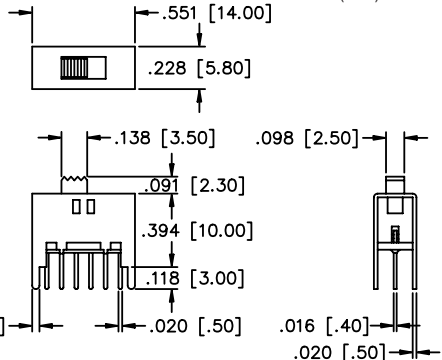
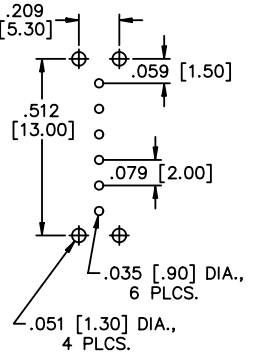
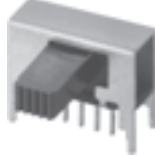
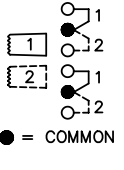
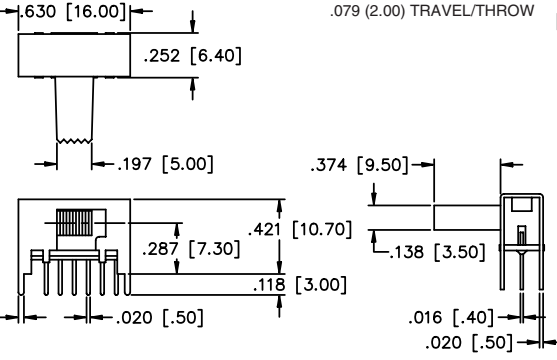
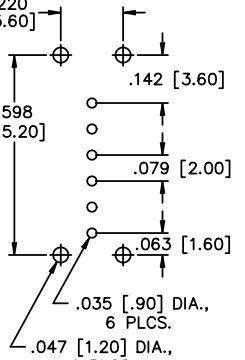
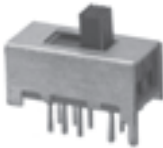
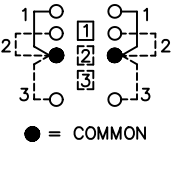
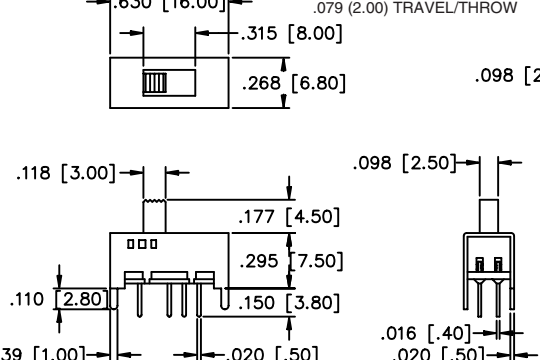
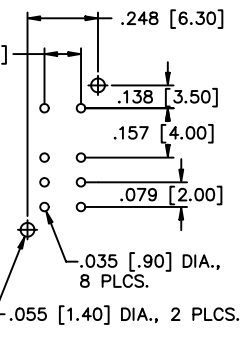
MODEL NO. PLATING		
MSS12A SILVER		
MSS12AG GOLD		
		
VERTICAL ACTUATOR	1P2T  ● = COMMON	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. PLATING		
MSS12AR SILVER		
MSS12ARG GOLD		
		
RIGHT ANGLE ACTUATOR	1P2T  ● = COMMON	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. PLATING		
MSS13AR SILVER		
		
RIGHT ANGLE ACTUATOR	1P3T  ● = COMMON	 MECHANICAL OUTLINE  P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MSS Series

Standard Size Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

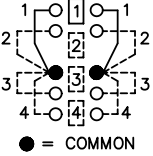
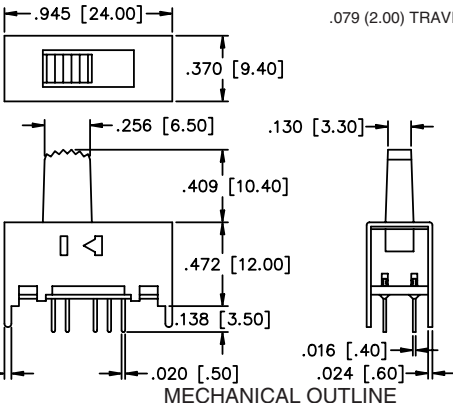
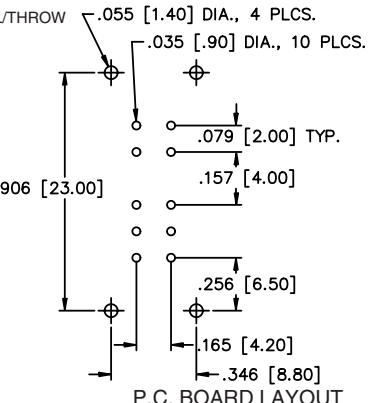
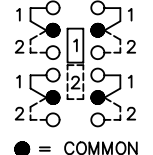
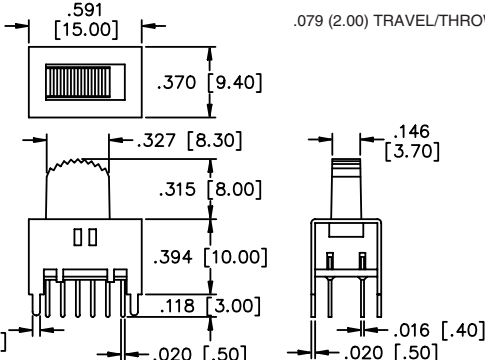
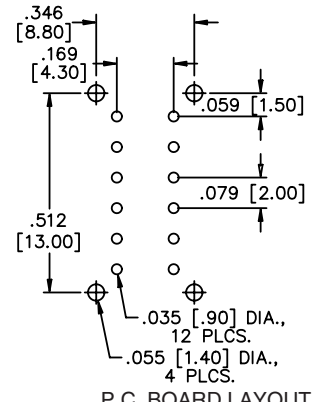
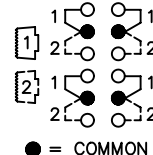
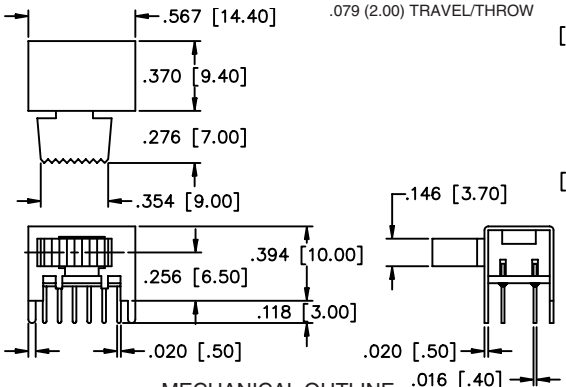
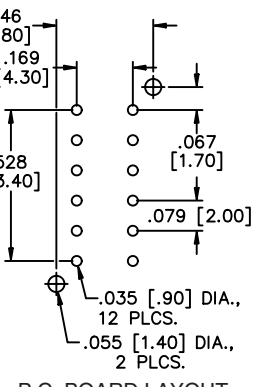
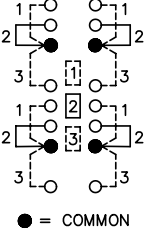
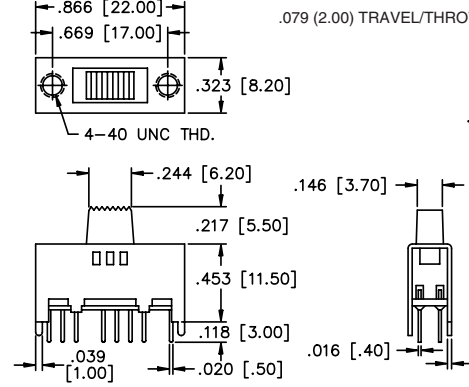
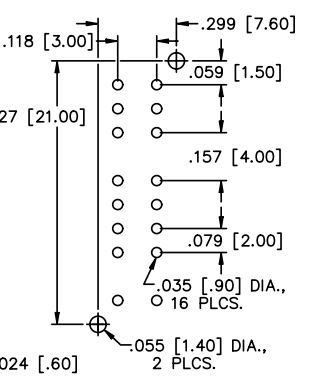
MODEL NO.	PLATING			
MSS14	SILVER			
MSS14G	GOLD			
				
VERTICAL ACTUATOR		1P4T  ● = COMMON	 MECHANICAL OUTLINE	 P.C. BOARD LAYOUT
MODEL NO.	PLATING			
MSS22	SILVER			
MSS22G	GOLD			
				
VERTICAL ACTUATOR		2P2T  ● = COMMON	 MECHANICAL OUTLINE	 P.C. BOARD LAYOUT
MODEL NO.	PLATING			
MSS225R	SILVER			
MSS225RG	GOLD			
				
RIGHT ANGLE ACTUATOR		2P2T  ● = COMMON	 MECHANICAL OUTLINE	 P.C. BOARD LAYOUT
MODEL NO.	PLATING			
MSS23	SILVER			
MSS23G	GOLD			
				
VERTICAL ACTUATOR		2P3T  ● = COMMON	 MECHANICAL OUTLINE	 P.C. BOARD LAYOUT

E

MSS Series

Standard Size Slide Switches

E

MODEL NO.	PLATING		
MSS24A	SILVER		
MSS24AG	GOLD		
		VERTICAL ACTUATOR	
		2P4T	  
MODEL NO.	PLATING		
MSS42	SILVER		
MSS42G	GOLD		
		VERTICAL ACTUATOR	
		4P2T	  
MODEL NO.	PLATING		
MSS42R	SILVER		
MSS42RG	GOLD		
		RIGHT ANGLE ACTUATOR	
		4P2T	  
MODEL NO.	PLATING		
MSS43	SILVER		
MSS43G	GOLD		
		VERTICAL ACTUATOR	
		4P3T	  

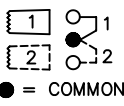
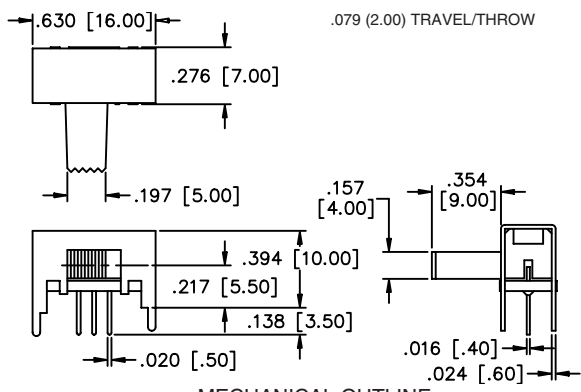
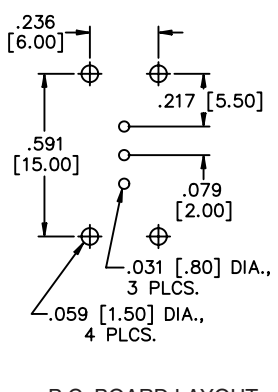
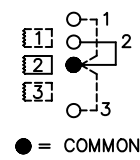
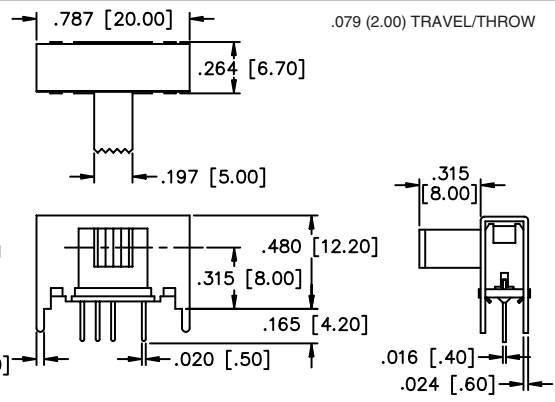
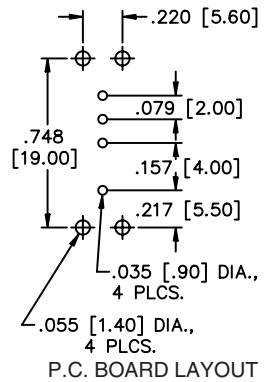
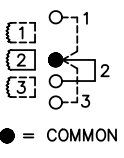
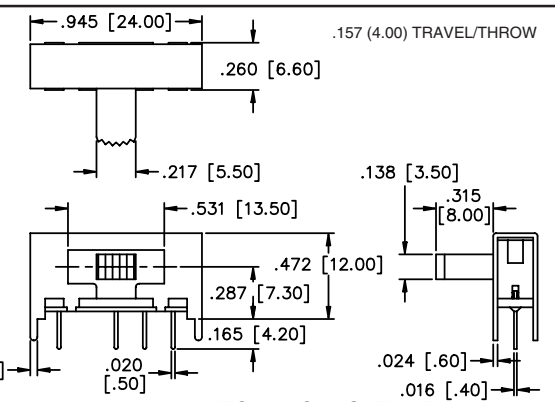
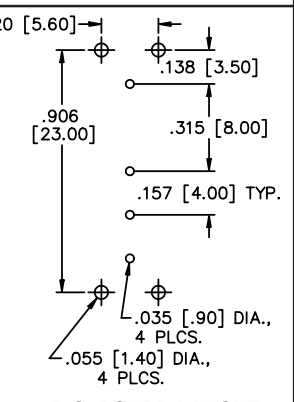
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

M Series

Standard Size Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SPECIFICATIONS	FEATURES
Contact rating: 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 500 volts RMS at sea level Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Bifurcated wiping contact design. ● Epoxy sealed terminals. ● Wash-through open frame construction. ● Reinforcing mounting legs. ● Many actuator styles and lengths available on request.
	MATERIALS
	Contacts & terminals: Silver plated Housing: Tin plated steel Actuator: Thermoplastic Base: Phenolic laminated sheet
	Terminal seal: Epoxy

MODEL NO. M12R	1P2T    RIGHT ANGLE ACTUATOR
MODEL NO. M13R	1P3T    RIGHT ANGLE ACTUATOR
MODEL NO. M13AR	1P3T    RIGHT ANGLE ACTUATOR

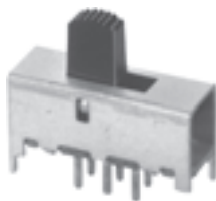
E

M Series

Standard Size Slide Switches

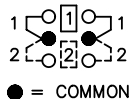
MODEL NO.

M22

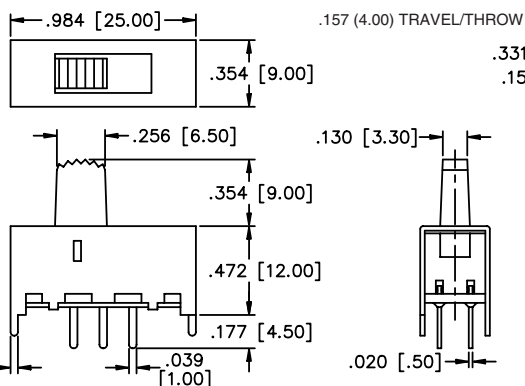


VERTICAL ACTUATOR

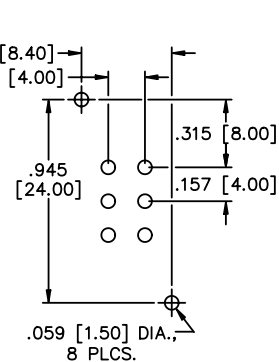
2P2T



SCHEMATIC



MECHANICAL OUTLINE



P.C. BOARD LAYOUT

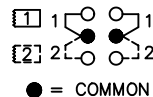
MODEL NO.

M22R

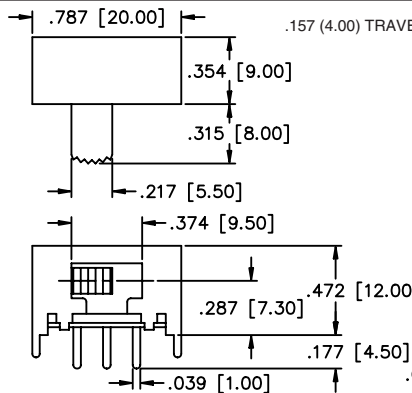


RIGHT ANGLE ACTUATOR

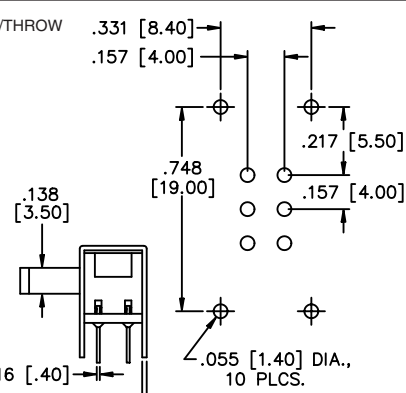
2P2T



SCHEMATIC



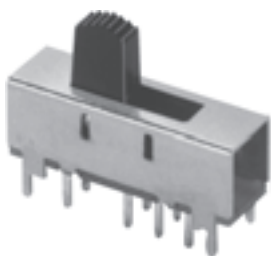
MECHANICAL OUTLINE



P.C. BOARD LAYOUT

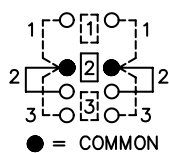
MODEL NO.

M23

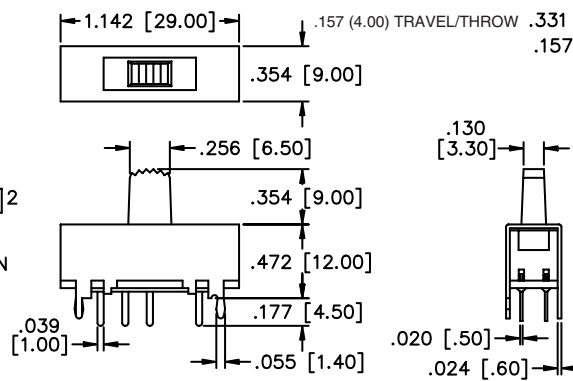


VERTICAL ACTUATOR

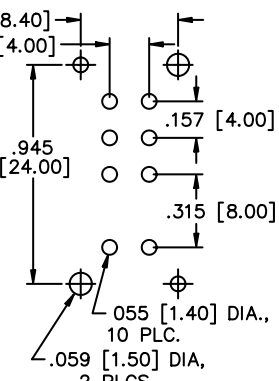
2P3T



SCHEMATIC



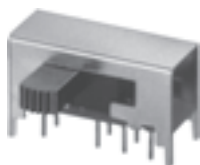
MECHANICAL OUTLINE



P.C. BOARD LAYOUT

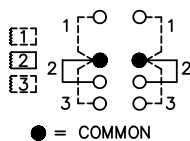
MODEL NO.

M23R

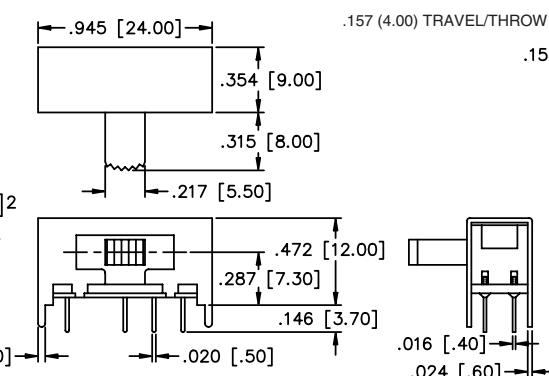


RIGHT ANGLE ACTUATOR

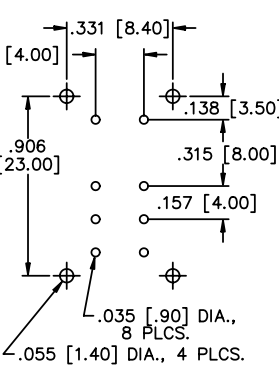
2P3T



SCHEMATIC



MECHANICAL OUTLINE



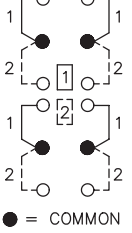
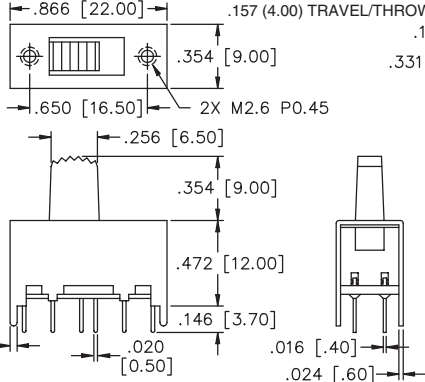
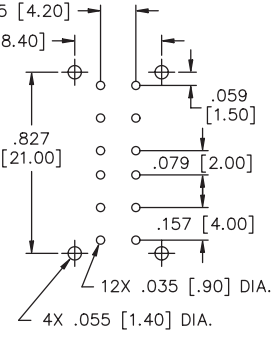
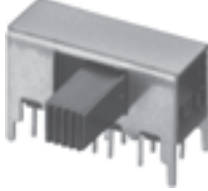
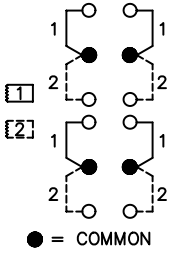
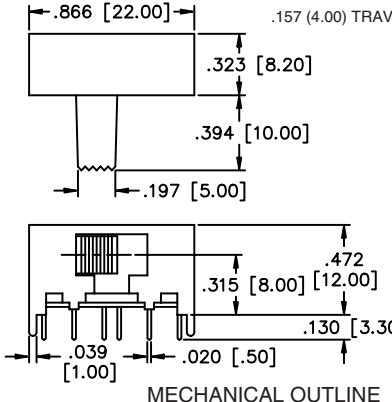
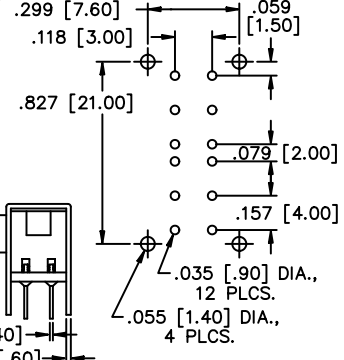
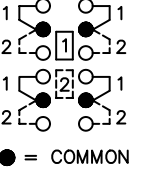
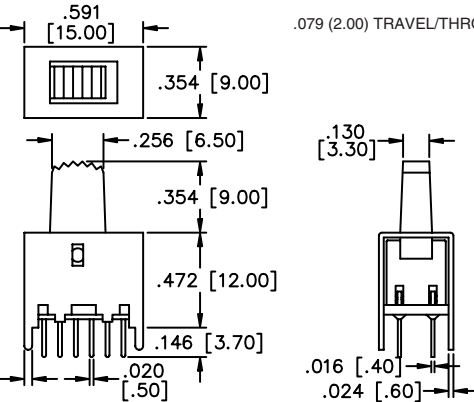
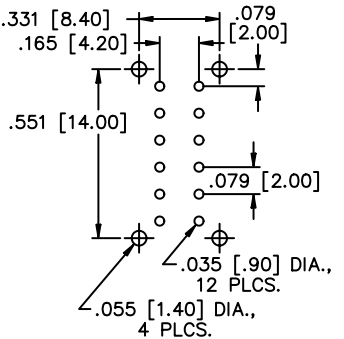
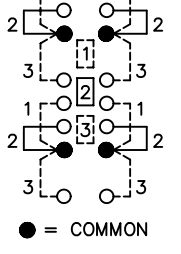
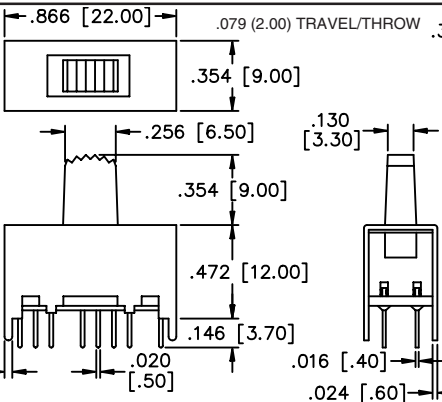
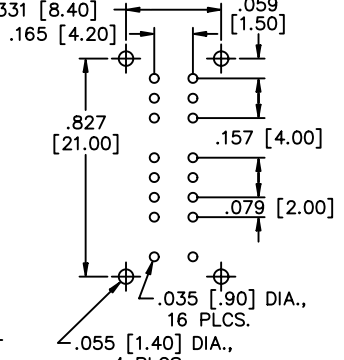
P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

M Series

Standard Size Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

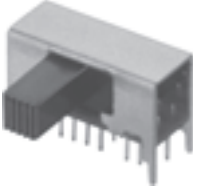
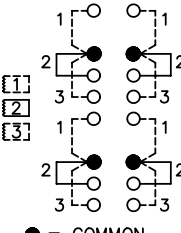
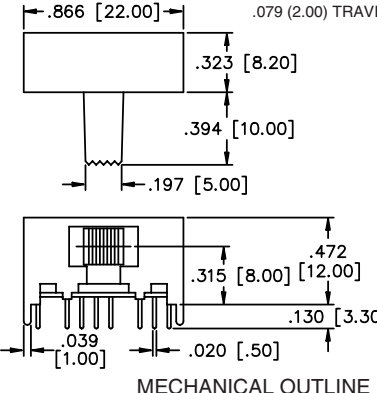
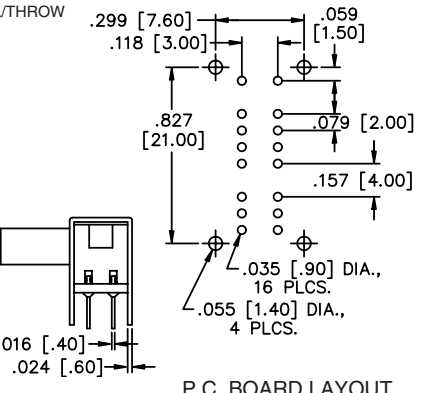
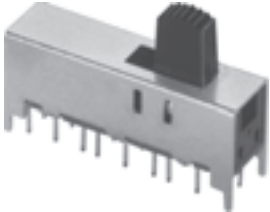
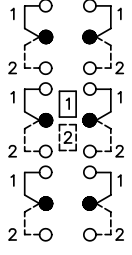
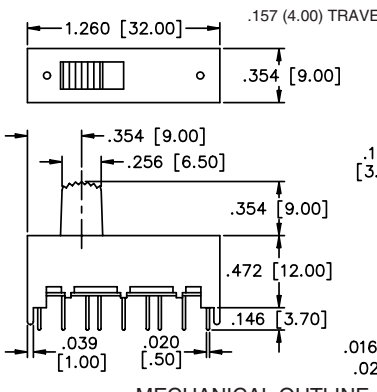
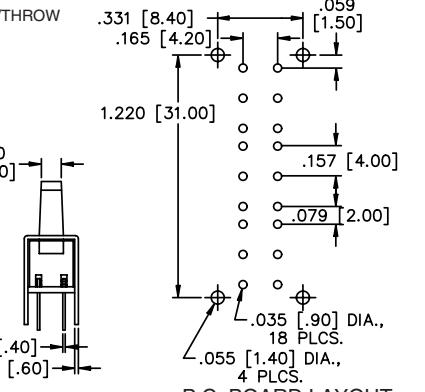
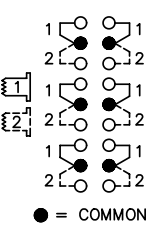
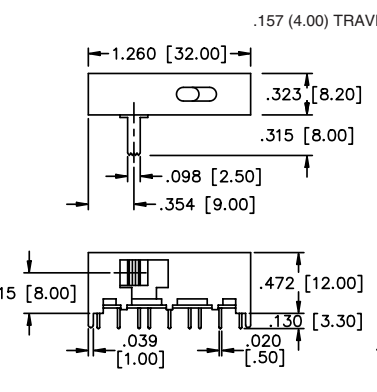
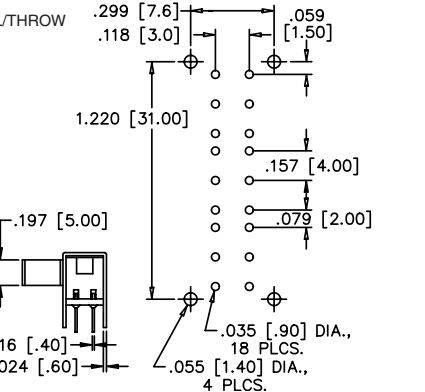
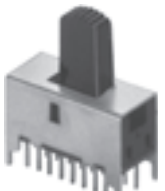
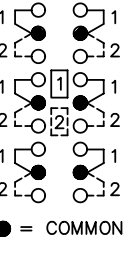
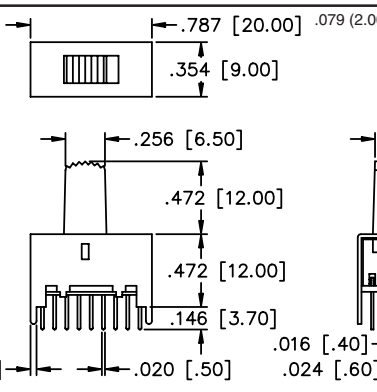
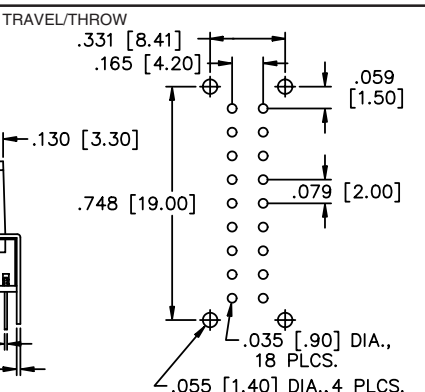
MODEL NO.				
M42				
	VERTICAL ACTUATOR	SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
M42R				
	RIGHT ANGLE ACTUATOR	SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
M42A				
	VERTICAL ACTUATOR	SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
M43				
	VERTICAL ACTUATOR	SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT

E

M Series

Standard Size Slide Switches

E

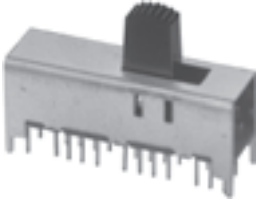
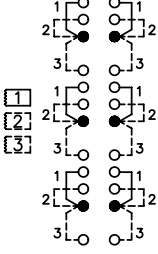
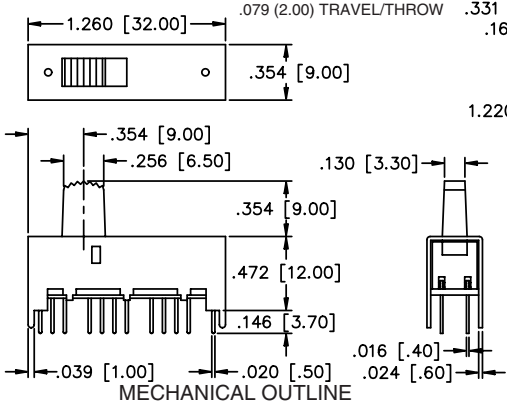
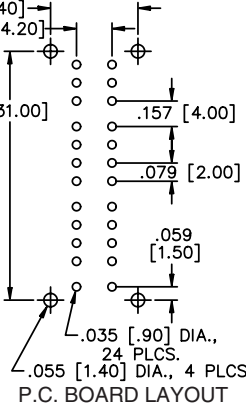
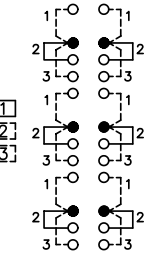
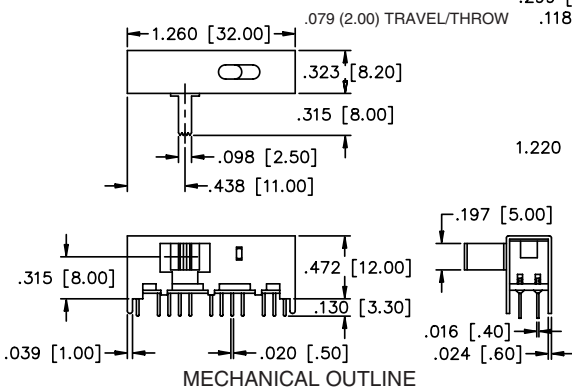
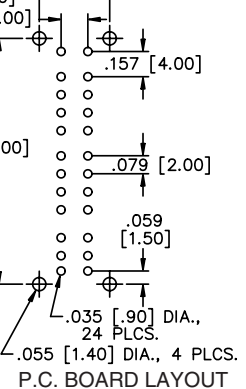
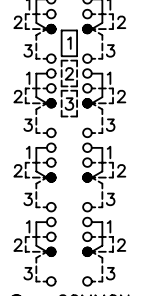
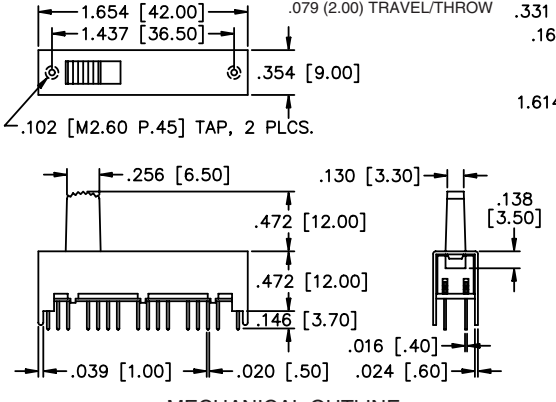
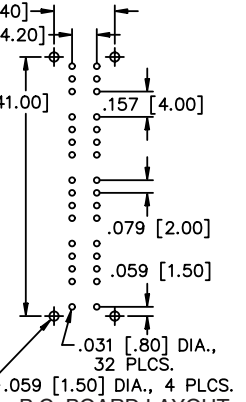
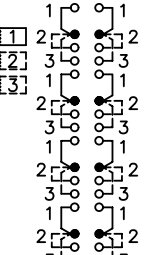
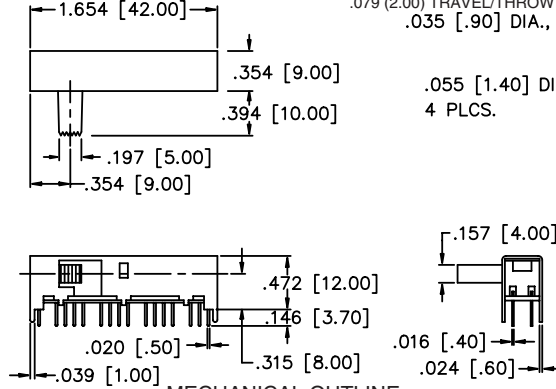
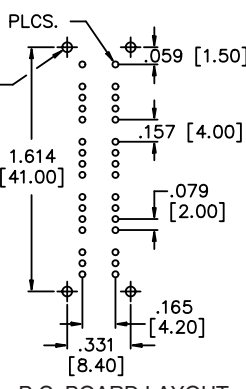
MODEL NO. M43R  RIGHT ANGLE ACTUATOR	4P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M62  VERTICAL ACTUATOR	6P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M62R  RIGHT ANGLE ACTUATOR	6P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M62A  VERTICAL ACTUATOR	6P2T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

M Series

Standard Size Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO. M63  VERTICAL ACTUATOR	6P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M63R  RIGHT ANGLE ACTUATOR	6P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M83  VERTICAL ACTUATOR	8P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. M83R  RIGHT ANGLE ACTUATOR	8P3T  ● = COMMON  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

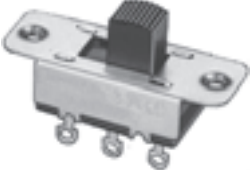
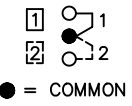
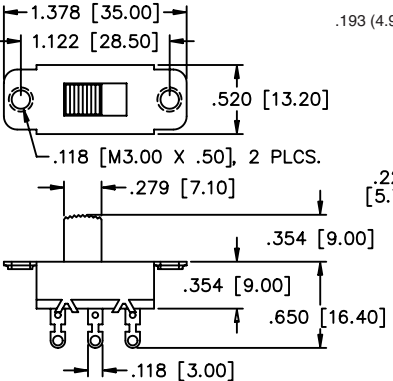
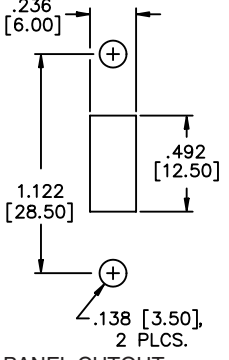
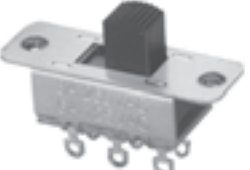
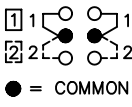
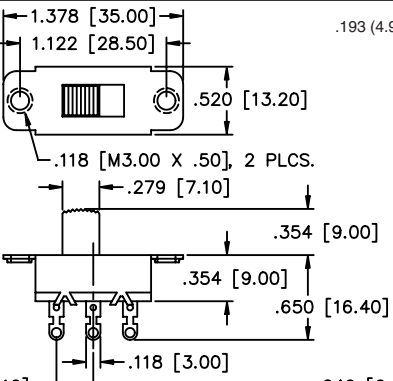
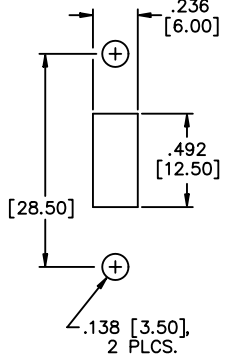
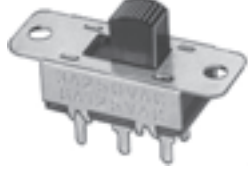
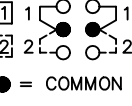
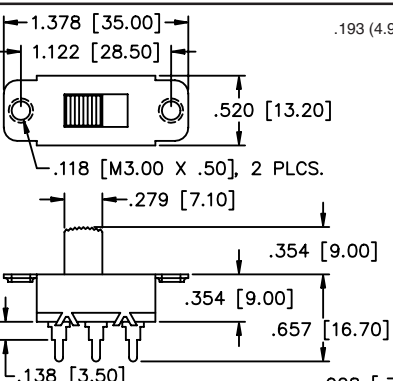
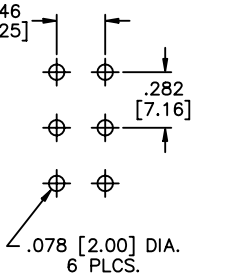
E

PM Series

Standard Size Slide Switches

SPECIFICATIONS	FEATURES
Contact rating: 6 Amps at 125 VAC, 3 Amps at 250 VAC Initial contact resistance: 30 milliohms max. Insulation resistance: 100 megohms min. at 500 VDC Dielectric strength: 1000 VAC for 1 minute (min.) Electrical life: 10,000 cycles min. Operating temperature range: -20°C to +60°C Actuation force: 500g ± 200g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Wash-through open frame construction. ● UL & CSA recognized. ● Threaded mounting holes standard - M3X0.5. ● Panel mounting.
MATERIALS	
Contacts: Silver plated phosphor bronze Terminals: Tin plated brass Base: Phenolic laminated sheet	Actuator: Nylon, type 6/6 Frame: Zinc plated steel

E

MODEL NO. PM13B012	1P2T 	 ● = COMMON  MECHANICAL OUTLINE  PANEL CUTOUT
MODEL NO. PM13B022	1P2T 	 ● = COMMON  MECHANICAL OUTLINE  P. C. BOARD LAYOUT
MODEL NO. PM13B022P	2P2T 	 ● = COMMON  MECHANICAL OUTLINE  PANEL CUTOUT

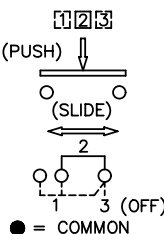
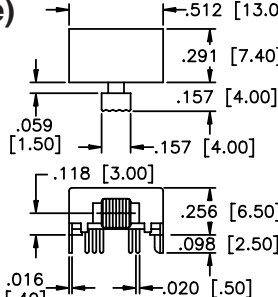
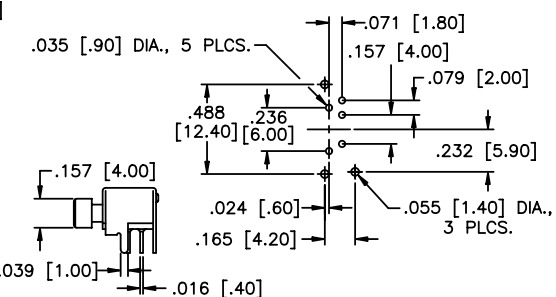
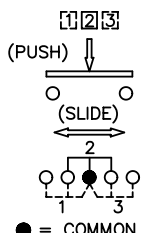
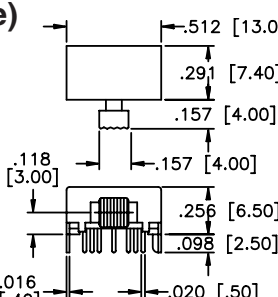
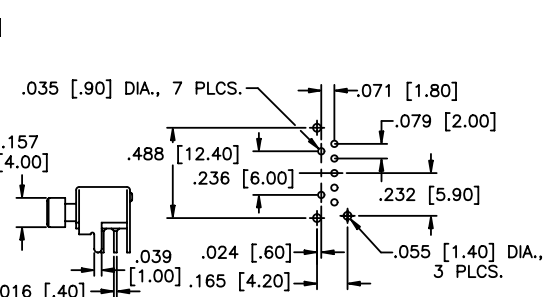
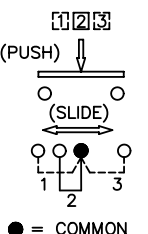
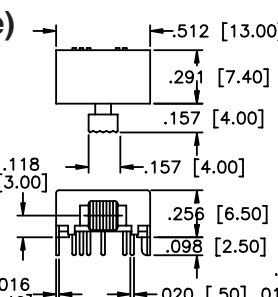
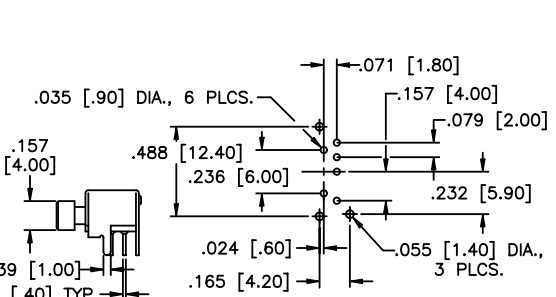
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MPS Series

Miniature Pushbutton Style Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SPECIFICATIONS	FEATURES
Contact ratings: Pushbutton contacts; 0.4 Volt-Amps max. at 20 V max. (AC or DC) Slide contacts; 300 mA at 125 VAC or 30 VDC Initial contact resistance: 20 milliohms max. Insulation resistance: 100 megohms max. at 250 VDC Dielectric strength: 250 volts RMS at sea level Electrical life: 100,000 cycles min. Operating temperature range: -10°C to +60°C Actuation force: Pushbutton; 200g ± 100g Slide; 100g to 450g Solder heat resistance: 260°C max. for 3 seconds Washing not recommended	- Combination momentary pushbutton switch and slide switch mechanism. - Bifurcated wiping contact design. - Epoxy sealed terminals. - Reinforcing mounting legs.
MATERIALS	
Contacts & terminals: Gold plating for pushbutton. Silver plating for slide (see contact ratings). Housing: Nickel plated brass Base: Phenolic laminated sheet	Actuator: Thermoplastic Terminal seal: Epoxy

MODEL NO.	1P1T, (PB) 1P3T, (Slide)
MPS101	
 RIGHT ANGLE ACTUATOR	 SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO.	1P1T, (PB) 1P3T, (Slide)
MPS101A	
 RIGHT ANGLE ACTUATOR	 SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO.	1P1T, (PB) 1P3T, (Slide)
MPS101B	
 RIGHT ANGLE ACTUATOR	 SCHEMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

E

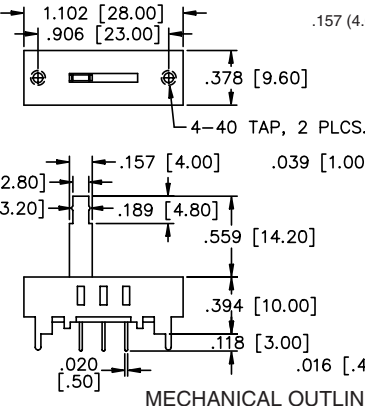
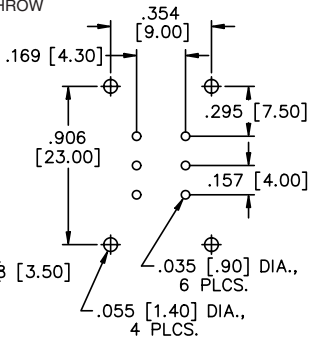
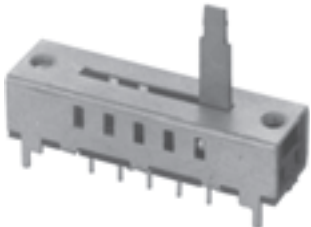
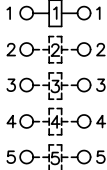
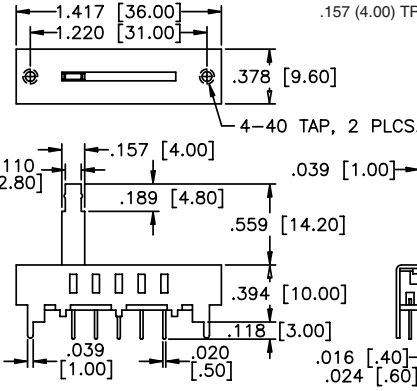
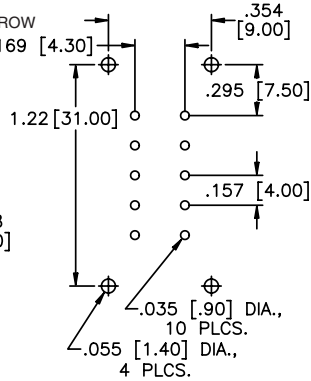
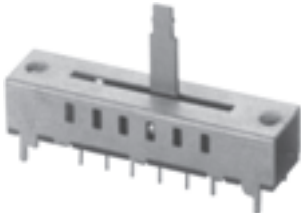
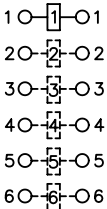
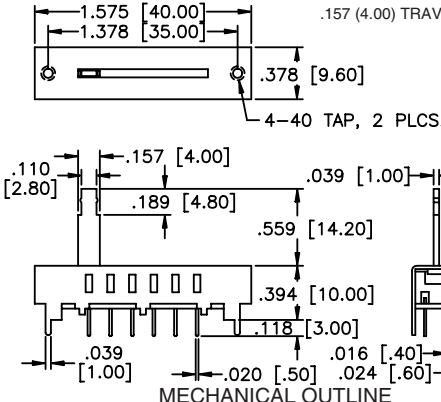
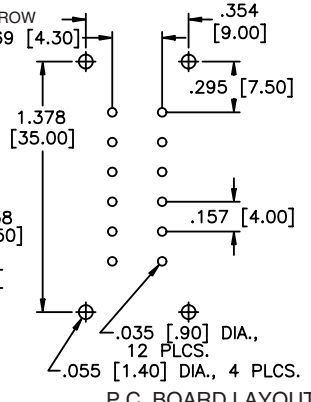
MSL Series

Single Pole Multi-Position Slide Switches

Note: up to 10 positions available - contact factory.
Minimum quantities may apply.
Optional color cap available for these models - see
Hardware section.

SPECIFICATIONS	FEATURES
Contact rating: 200 mA at 125 VAC or 30 VDC Initial contact resistance: 30 milliohms max. Contact timing: Non-shorting Insulation resistance: 100 megohms max. at 500 VDC Dielectric strength: 500 volts RMS at sea level Electrical life: 10,000 cycles min. Operating temperature range: -10°C to +60°C Actuation force: 250g ± 100g Solder heat resistance: 260°C max. for 3 seconds Solvent washing permissible	● Bifurcated wiping contact design. ● Epoxy sealed terminals. ● Wash-through open frame construction. ● Reinforcing mounting legs. ● Threaded mounting holes standard - 4-40NC-2B.
	MATERIALS
	Contacts & terminals: Silver plated Housing: Tin/lead plated steel Base: Phenolic laminated sheet Slider: High temperature thermoplastic
	Actuator: Steel Terminal seal: Epoxy

E

MODEL NO. MSL33	1P3T  VERTICAL ACTUATOR	 SCHMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MSL55	1P5T  VERTICAL ACTUATOR	 SCHMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT
MODEL NO. MSL66	1P6T  VERTICAL ACTUATOR	 SCHMATIC  MECHANICAL OUTLINE  P.C. BOARD LAYOUT

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MBT Series

Baton Toggle Style Slide Switches

SPECIFICATIONS

Contact rating: 300 mA at 125 VAC or 30 VDC
Initial contact resistance: 20 milliohms max.
Insulation resistance: 100 megohms max. at 500 VDC
Dielectric strength: 500 volts RMS at sea level
Electrical life: 10,000 cycles min.
Operating temperature range: -10°C to +60°C
Actuation force: 400g ± 200g
Solder heat resistance: 260°C max. for 3 seconds
Solvent washing permissible

FEATURES

- Bifurcated wiping contact design.
- Epoxy sealed terminals.
- Wash-through open frame construction.
- Reinforcing mounting legs.
- Threaded mounting holes standard.

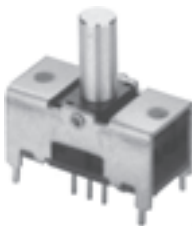
MATERIALS

Contacts & terminals: Silver plated
Housing: Tin plated steel
Actuator: Thermoplastic
Base: Phenolic laminated sheet

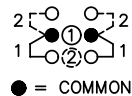
Terminal seal: Epoxy

MODEL NO. CONTACTS

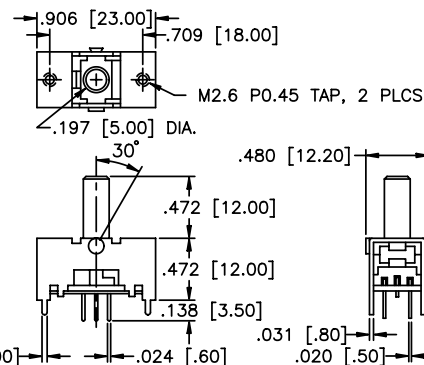
MBT22N NON-SHORTING



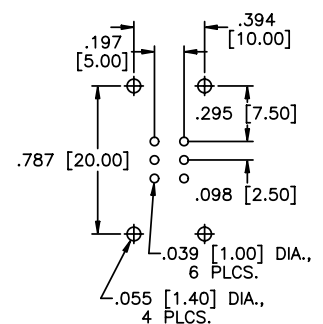
2P2T



SCHEMATIC



MECHANICAL OUTLINE



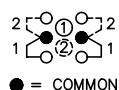
P.C. BOARD LAYOUT

MODEL NO. CONTACTS

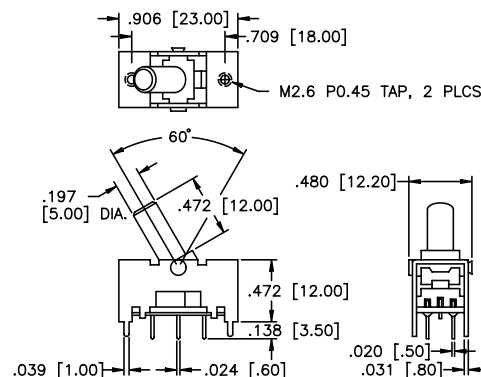
MBT22S SHORTING



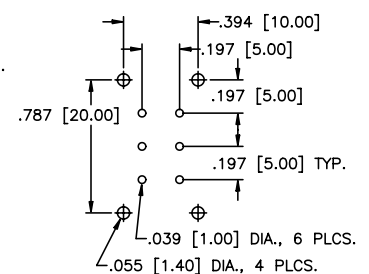
2P2T



SCHEMATIC



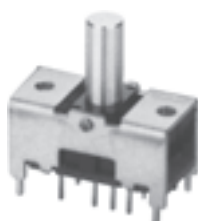
MECHANICAL OUTLINE



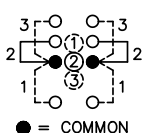
P.C. BOARD LAYOUT

MODEL NO. CONTACTS

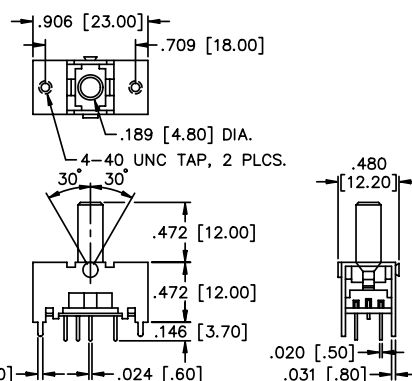
MBT23N NON-SHORTING



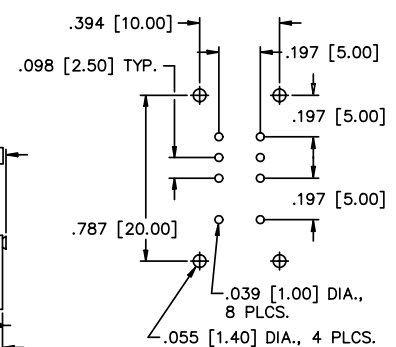
2P3T



SCHEMATIC



MECHANICAL OUTLINE



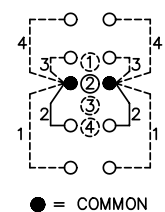
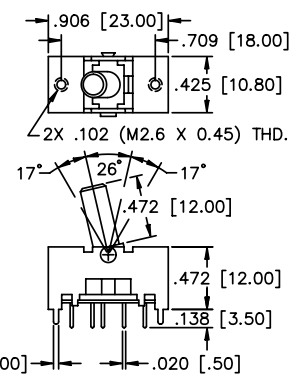
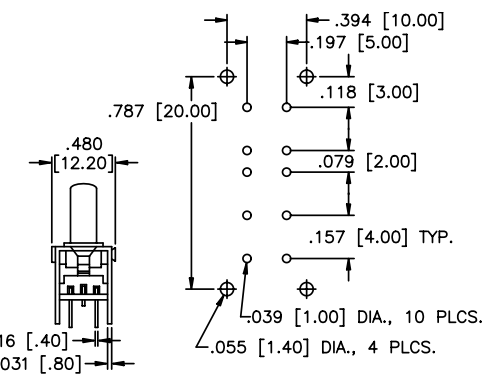
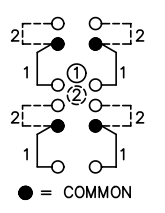
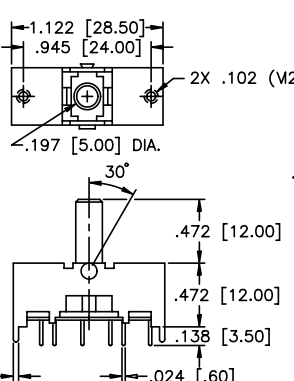
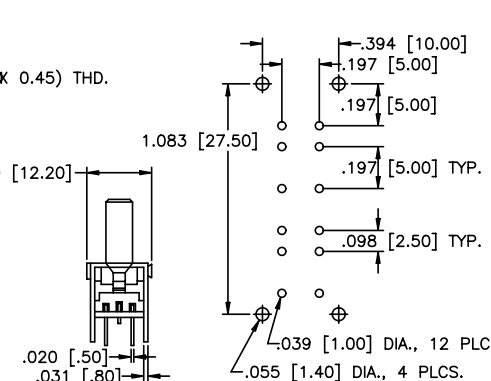
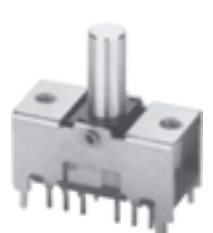
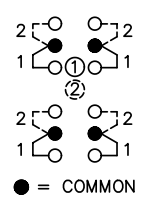
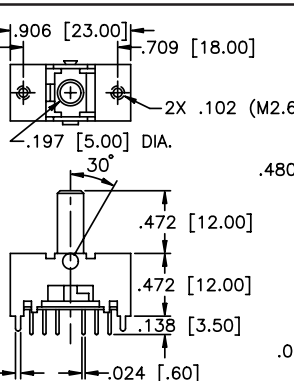
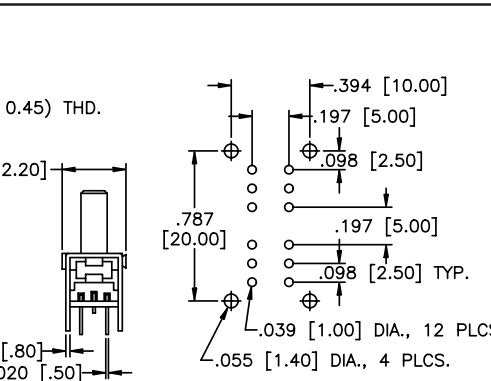
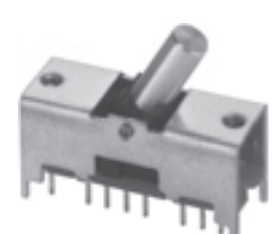
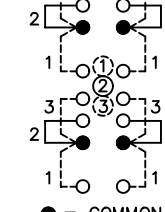
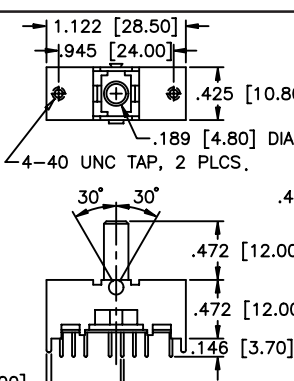
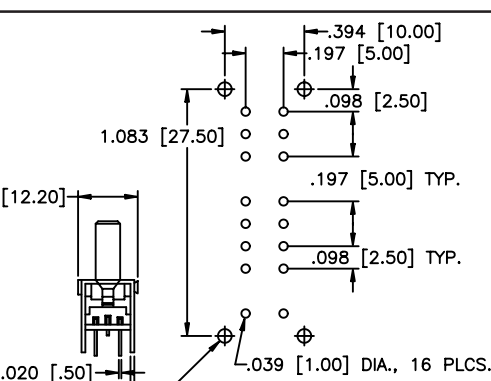
P.C. BOARD LAYOUT

MBT Series

Baton Toggle Style Slide Switches

E

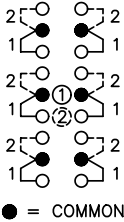
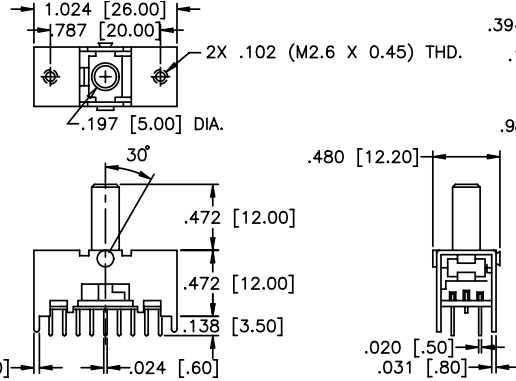
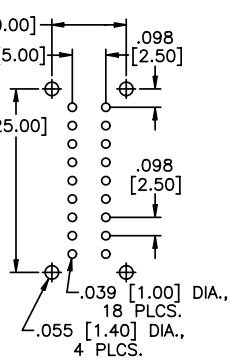
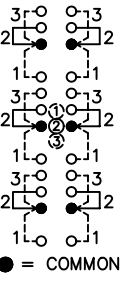
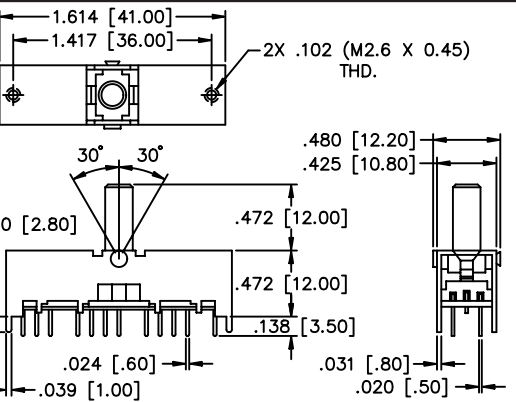
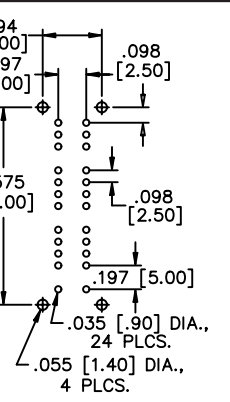
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	CONTACTS
MBT24	UNSPECIFIED
	2P4T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	CONTACTS
MBT42N	NON-SHORTING
	4P2T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	CONTACTS
MBT42S	SHORTING
	4P2T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT
MODEL NO.	CONTACTS
MBT43N	NON-SHORTING
	4P3T  ● = COMMON   SCHEMATIC MECHANICAL OUTLINE P.C. BOARD LAYOUT

MBT Series

Baton Toggle Style Slide Switches

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL NO.	CONTACTS			
MBT62N	NON-SHORTING			
MBT62S	SHORTING			
		6P2T 		
		SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT
MODEL NO.	CONTACTS			
MBT63	UNSPECIFIED			
		6P3T 		
		SCHEMATIC	MECHANICAL OUTLINE	P.C. BOARD LAYOUT

E