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Who or what is IC SWITCHES.

IC SWITCHES is not a company, but a product line created by a group of distributors who have invested in tooling in order to offer high-quality miniature switches at reasonable prices.

Being manufactured in various ISO-approved factories, these distributor-group products offer the best possible quality/price ratio.



QUALITY SWITCHES

<p>Number of poles</p> <p>1 = 1 pole 2 = 2 pole 3 = 3 pole 4 = 4 pole</p>	<p>Actuator</p> <p>AP..... OP..... P..... R..... S.....</p>	<p>Bushing</p> <p>B.....</p>	<p>Termination</p> <p>M..... VS.....</p>	<p>Contact material</p> <p>Q R G</p>	<p>Sealed Termination</p> <p>E</p>	<p>Colors*</p> <p>1 WHITE 2 BLACK(STD)</p> <p><small>FOR OTHER PLEASE CONSULT DISTRIBUTOR *1ST DIGIT ACTU</small></p>																	
<p>Function</p> <p>1 = 1 - 1 2 = 1 0 1 3 = 1 0 (1) 4 = (1) 0 (1) 5 = 1 - (1) *6 = 1 1 1 *7 = 1 1 (1) *8 = (1) 1 (1) 9 = 0 - (1) 0 = - 1 (1)</p>		<p>Type of switch</p> <table border="0"> <tr> <td>01 = Miniature toggle switch</td> <td>S1 = Sealed miniature toggle switch</td> </tr> <tr> <td>02 = Sub miniature toggle switch</td> <td>S2 = Sealed sub miniature toggle switch</td> </tr> <tr> <td>03 = Miniature rocker switch</td> <td>S3 = Sealed miniature rocker switch</td> </tr> <tr> <td>04 = Sub miniature rocker switch</td> <td>S4 = Sealed sub miniature rocker switch</td> </tr> <tr> <td>05 = Miniature slide switch</td> <td>M8 = Sealed surface mount pushbutton switch</td> </tr> <tr> <td>A5 = Sub miniature slide switch</td> <td>M2 = Sealed surface mount toggle switch</td> </tr> <tr> <td>06 = Low power slide switch</td> <td>S7 = Sealed snap-acting pushbutton switch</td> </tr> <tr> <td>07 = Snap-acting pushbutton switch</td> <td>S8 = Sealed sub miniature pushbutton switch</td> </tr> <tr> <td>08 = Sub miniature pushbutton switch</td> <td></td> </tr> </table>				01 = Miniature toggle switch	S1 = Sealed miniature toggle switch	02 = Sub miniature toggle switch	S2 = Sealed sub miniature toggle switch	03 = Miniature rocker switch	S3 = Sealed miniature rocker switch	04 = Sub miniature rocker switch	S4 = Sealed sub miniature rocker switch	05 = Miniature slide switch	M8 = Sealed surface mount pushbutton switch	A5 = Sub miniature slide switch	M2 = Sealed surface mount toggle switch	06 = Low power slide switch	S7 = Sealed snap-acting pushbutton switch	07 = Snap-acting pushbutton switch	S8 = Sealed sub miniature pushbutton switch	08 = Sub miniature pushbutton switch	
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"1"=On "-"=None (not existing) "0"=Off "(1)"=Momentary *2 and 4 pole switches only (see wiring diagram below)

CONTACT MATERIAL : OPTIONS, MATERIALS, RATINGS

Q (std with non-sealed series)

End contacts : coin silver, or copper alloy silver plated
Centre contacts : copper alloy silver plated
Terminals : copper alloy silver plated

Ratings

-01, 03, 05 series: 5A@125VAC or 28VDC (resistive)
2A@250VAC (resistive)
-02, 04 series : 3A@125VAC or 28VDC
1,5A@250VAC
-A5 series : 3A@125VAC or 28VDC
1A@250VAC
-06 series : 2A@250VAC
-07, 08 series : 1A@125VAC or 28VDC

R

End contacts : copper alloy, with gold plate over nickel plate
Centre contacts : copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate

Ratings

-06 series : 100mA@30VDC max. (resistive)
-All others : 0,4 VAmx.@20VAC or DC max.

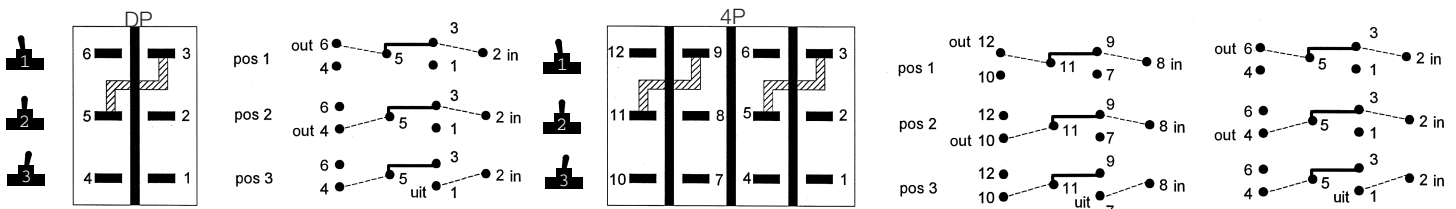
G (sealed series only)

End contacts : coin silver, with gold plate over nickel plate
Centre contacts : copper alloy with gold plate over nickel plate
Terminals : copper alloy with gold plate over nickel plate

Ratings

-All series : 0,4 VA max. @ 20VAC or DC max. OR
-S1, S3 series : 5A@125VAC or 28VDC (resistive)
2A@ 250 VAC (resistive)
-S2, S4 series : 3A@125VAC or 28 VDC
1,5A@250VAC
-S7, S8 series : 1A@125VAC or 28VDC

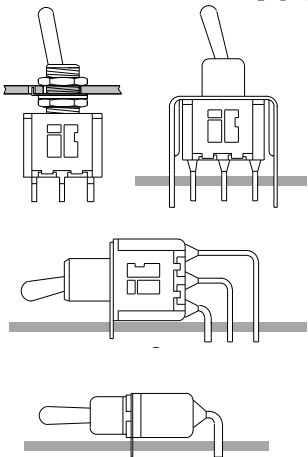
*WIRING DIAGRAM FOR 3 WAY SWITCHES. FUNCTIONS 6, 7, 8



IMPORTANT NOTICE:

- Various options, like actuator, bushing, termination etc. may, although mentioned with other series and not with the specific series you require, still be available. Please consult your distributor.
- Request for switches made to your own specifications or even design (custom made) are welcome.
- Full typenumbers mentioned in this catalogue reflect to photographs, not to drawings.
- The information contained in this catalogue is accurate to the best of our knowledge. It is without any guarantee as to its accuracy and completeness.

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:




Contact rating: see page 1 and 7
 Electrical life: 50.000 make-and-break cycles at full load
 Contact resistance: 10mΩ max. initial @ 2-4VDC 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1.000MΩ min.
 Dielectric strength: 1.500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C

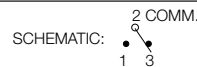
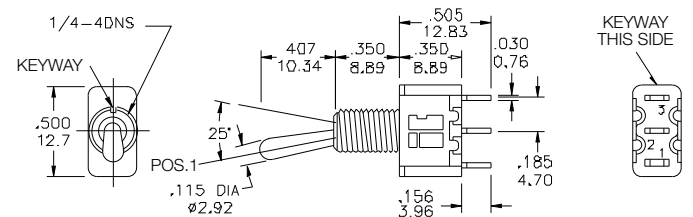
MATERIALS:

Toggle handle: brass, chrome plated
 Bushing: brass, nickel plated
 Housing: stainless steel
 Case: diallyl phthalated (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated

SPDT TYPE 1101T1B1M1RE






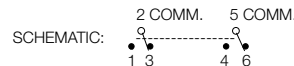
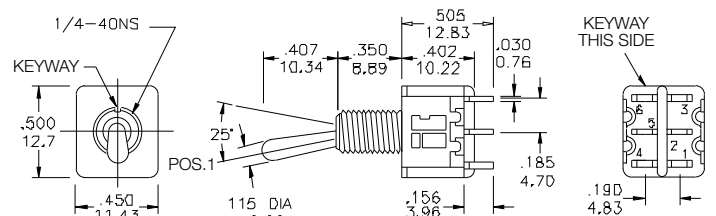
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3	OPEN	2-1



DPDT TYPE 2101T1B1M1QE






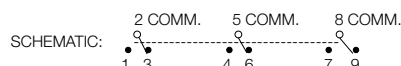
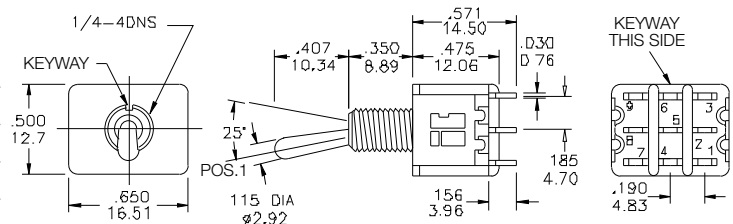
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3, 5-6	OPEN	2-1, 5-4
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM. CONN.	2-3, 5-6	2-3, 5-4	2-1, 5-4



3PDT TYPE 3101T1B1M1RE



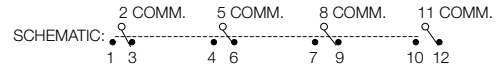
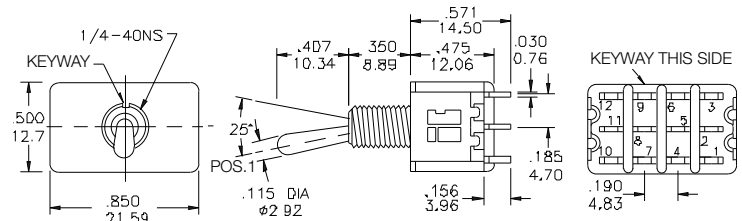
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3, 5-6	OPEN	2-1, 5-4
			8-7



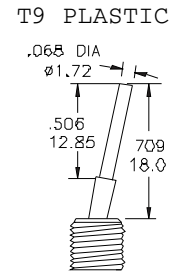
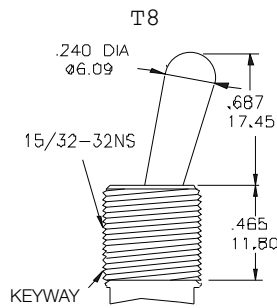
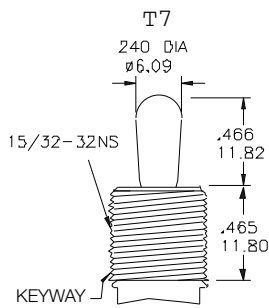
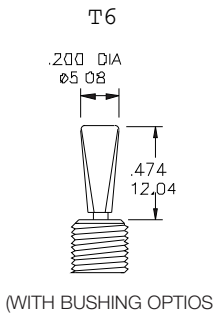
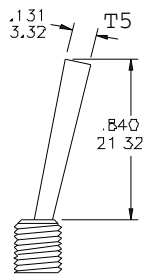
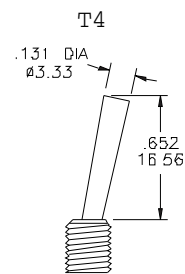
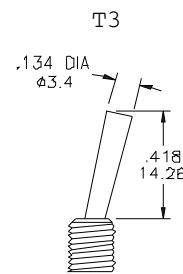
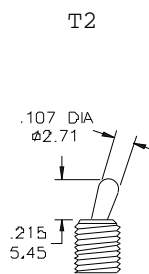
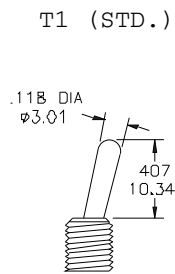
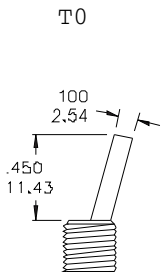
4PDT TYPE 4101T1B1M1QE



FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3,5-6, 8-9,11-12	OPEN	2-1,5-4, 8-7,11-10
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM. CONN.	2-3,5-6, 8-9,11-12	2-3,5-4, 8-9,11-10	2-1,5-4, 8-7,11-10



ACTUATOR OPTIONS



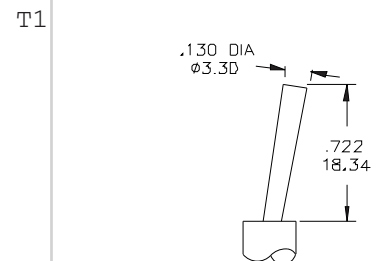
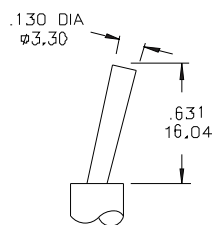
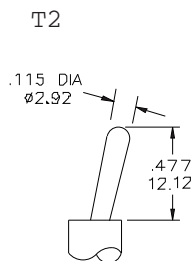
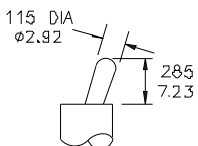
ACTUATOR

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

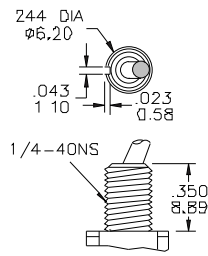
ACTUATOR OPTIONS (FOR P.C. MOUNTING M6 & M7)

(STD. WITH PC. MOUNTING)

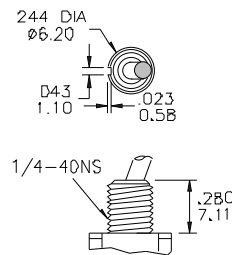


BUSHING OPTIONS

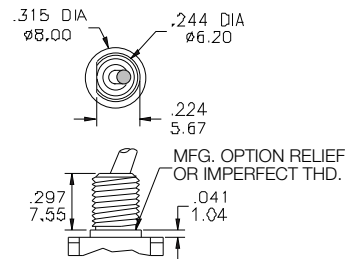
B1 (STD.)
B2 NON - THD



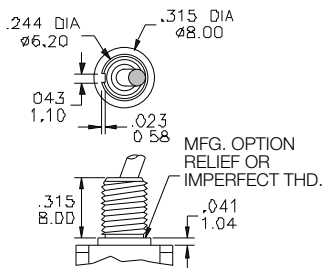
B3
B4 NON - THD



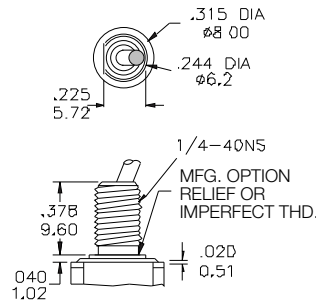
B5 HIGH TORQUE



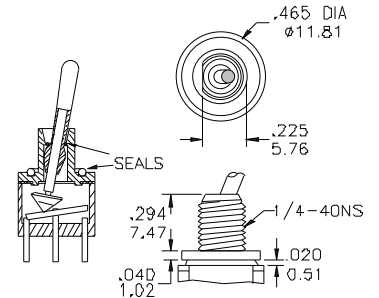
B6 HIGH TORQUE



B7 LONG

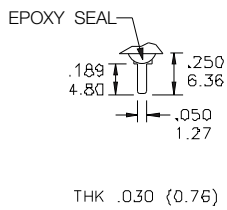
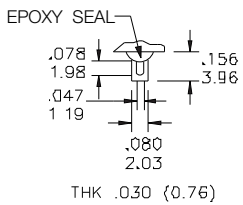


B9 SPLASH-PROOF

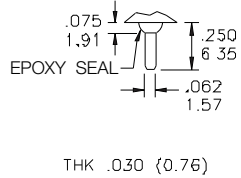


TERMINATION OPTIONS

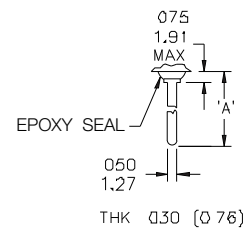
M1 (STD.)



M2

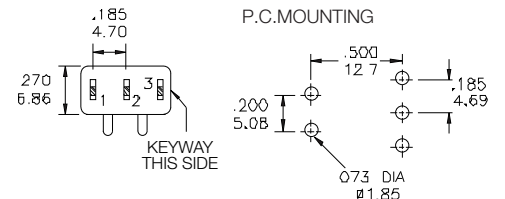
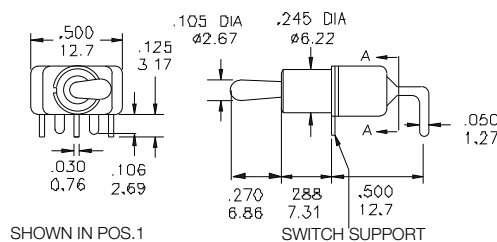


M3 (QUICK CONNECT)

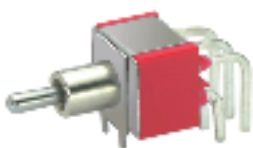


OPTION	
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.425(10.80)

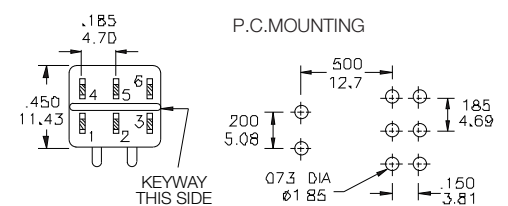
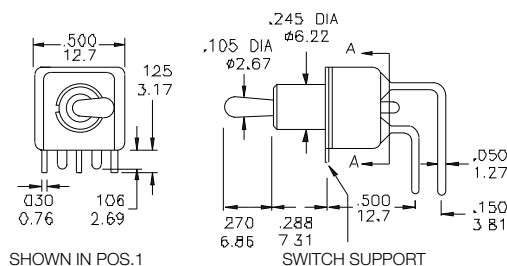
SPDT TYPE 1101T2B4M6QE



DPDT TYPE 2101T2B4M6QE



M6

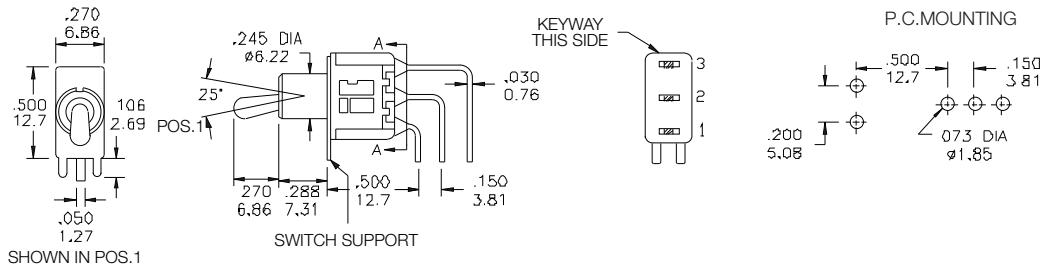


SPDT TYPE 1101T2B4M7RE

TERMINATION OPTIONS



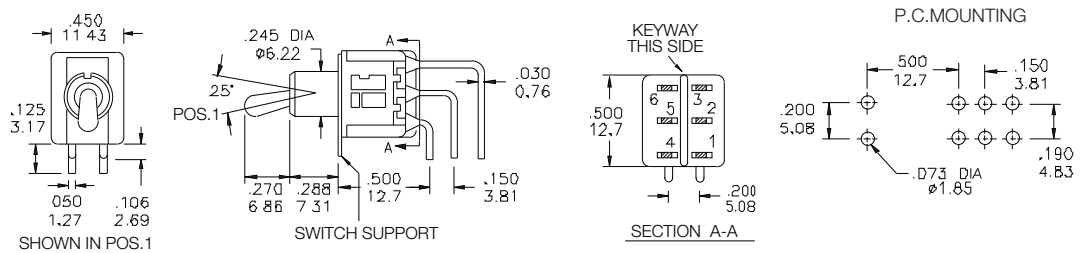
M7



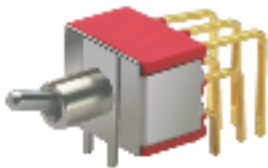
DPDT TYPE 2101T2B4M7RE



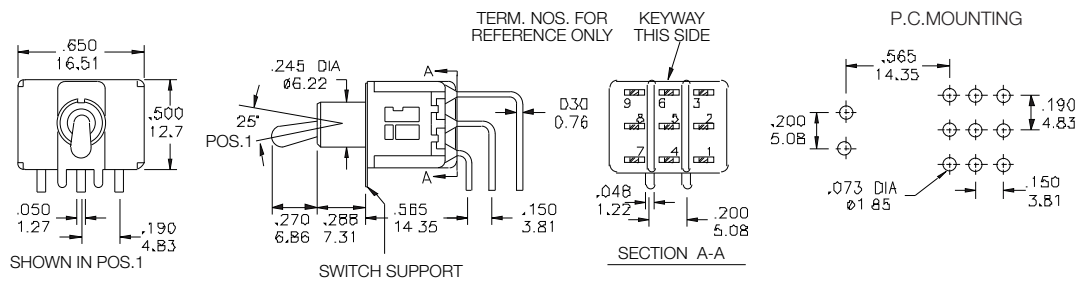
M7



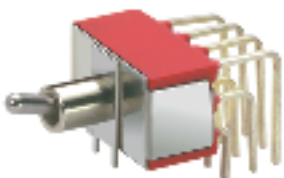
3PDT TYPE 3101T2B4M7RE



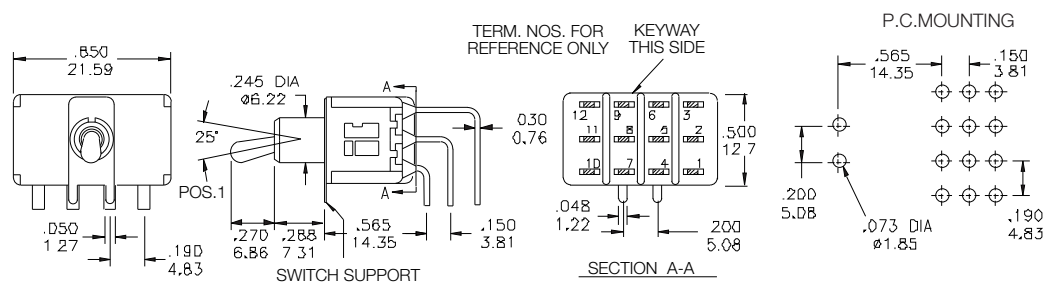
M7



4PDT TYPE 4101T2B4M7QE



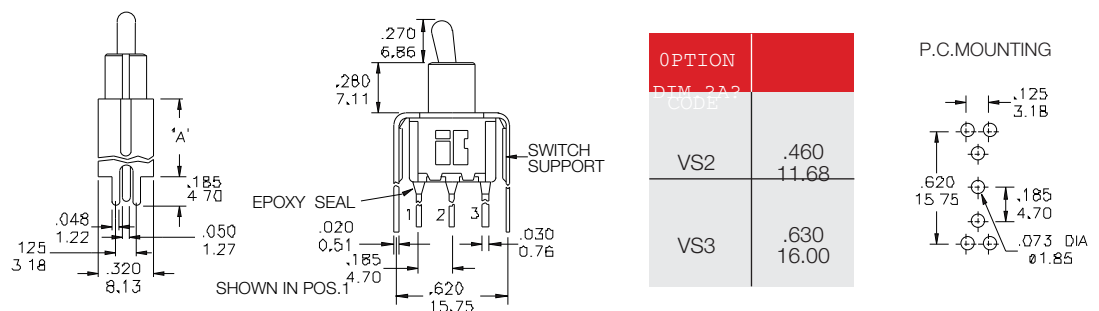
M7



SPDT TYPE 1101T2B4VS2QE



VS2-VS3

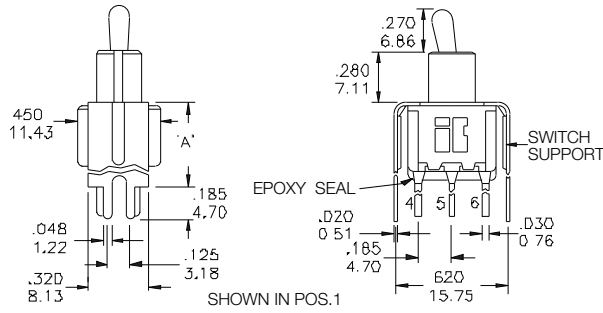


DPDT TYPE 2101T1B4VS2QE

TERMINATION OPTIONS

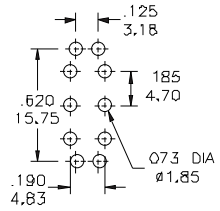


VS2-VS3



OPTION	
VS2	.460 11.68
VS3	.630 16.00

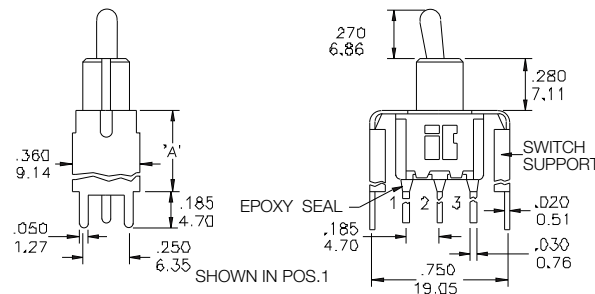
P.C.MOUNTING



SPDT TYPE 1101T2B4VS4QE

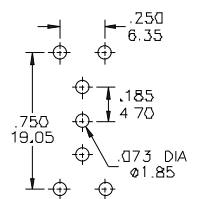


VS4-VS5



OPTION	
VS4	.460 11.68
VS5	.630 16.00

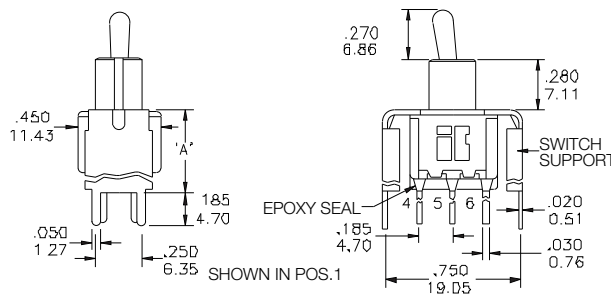
P.C.MOUNTING



DPDT TYPE 2101T2B2VS4RE

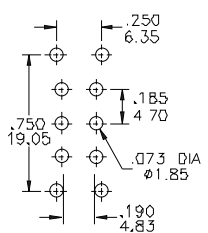


VS4-VS5



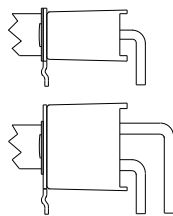
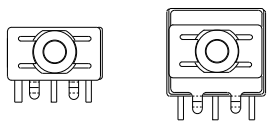
OPTION	
VS4	.460 11.68
VS5	.630 16.00

P.C.MOUNTING

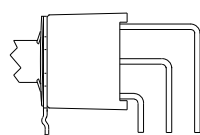
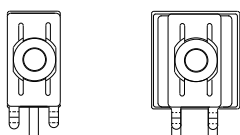


SNAP-IN TERMINATION OPTIONS

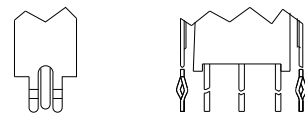
M61 SNAP-IN



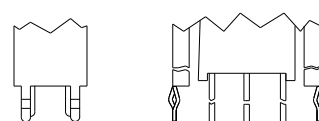
M71 SNAP-IN



VS21, VS3 SNAP-IN



VS41, VS5 SNAP-IN



SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
 Centre contacts: copper alloy silver plated
 Terminals : copper alloy silver plated

Ratings : 5A@125VAC or 28VDC(resistive) 2A@250VAC (resistive)

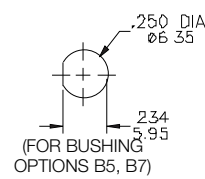
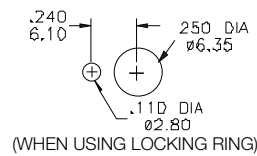
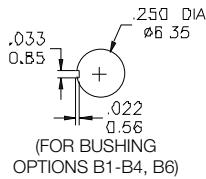
R

End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts: copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

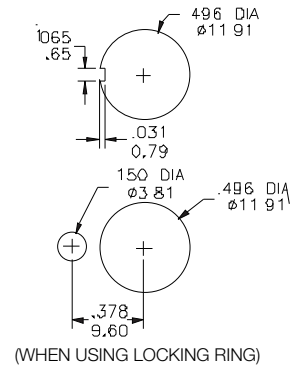
Rating : 0,4VAmx.@20VAC or DC max.

PANEL MOUNTING

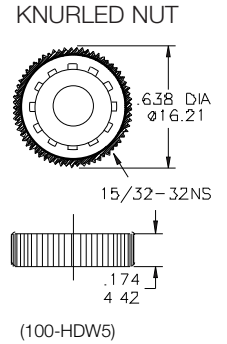
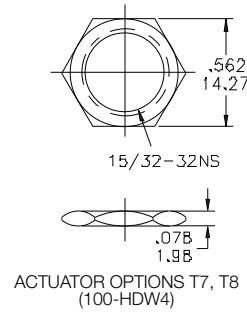
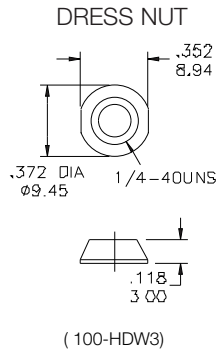
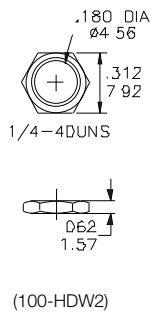
1/4 IN. BUSHING



15/32 IN. BUSHING

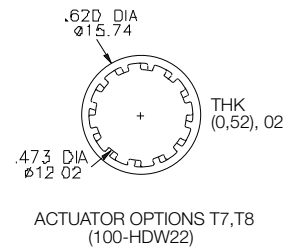
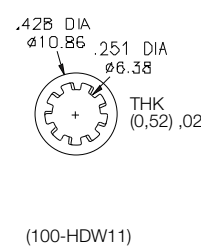
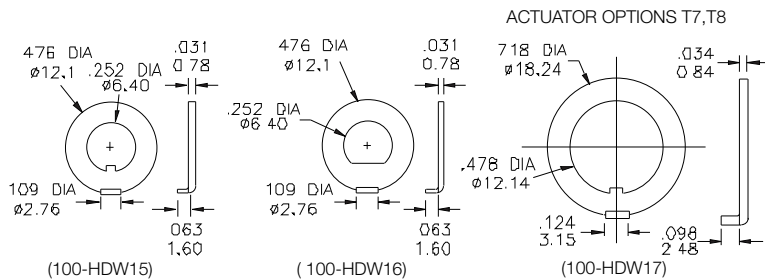


NUTS



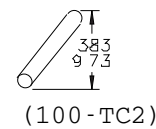
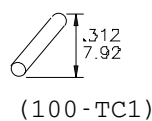
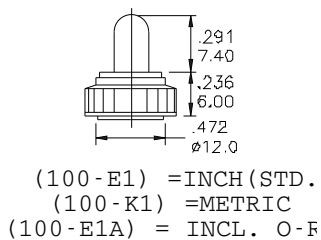
LOCKING RINGS

LOCK WASHERS



RUBBER HOOD SEALING

TOGGLE CAPS



NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

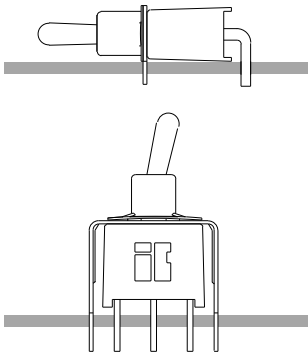
HOW TO ORDER SEE PAGE 1

SPECIFICATIONS:

Contact rating: see page 1 and 11
 Electrical life: 50,000 make-and-break cycles at full load
 Contact resistance: 10mΩ max. initial @ 2-4VDC 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1,500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators




MATERIALS:

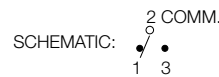
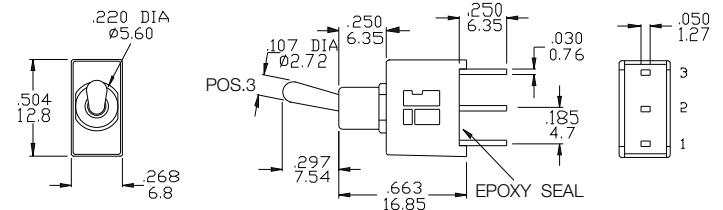
Toggle handle: brass, chrome plated
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Switch support retainer: stainless steel
 Contact materials: see page 1 and 11



SPDT TYPE 11S1T2B4M2RE






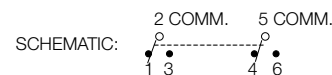
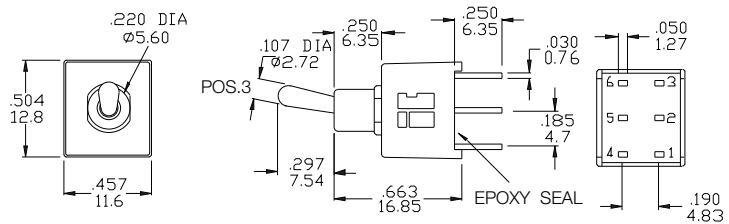
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



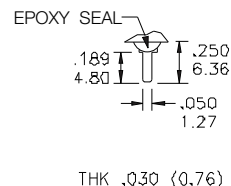
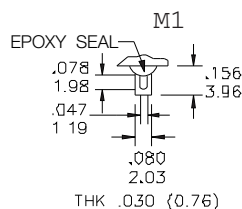
DPDT TYPE 21S1T1B4M2RE

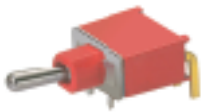


FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3, 5-6	OPEN	2-1, 5-4
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM. CONN.	2-3, 5-6	2-3, 5-4	2-1, 5-4

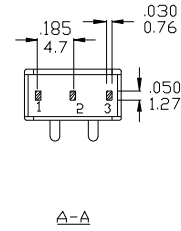
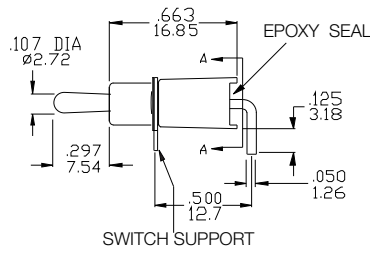
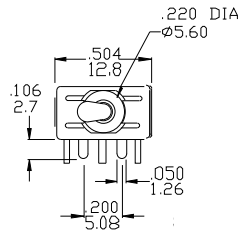
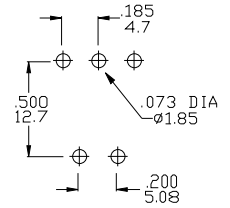
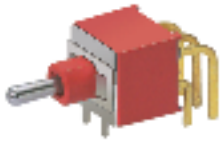


TERMINATION OPTIONS

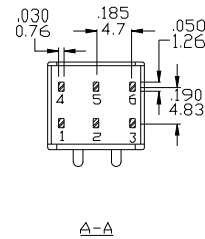
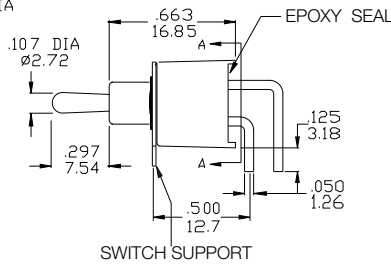
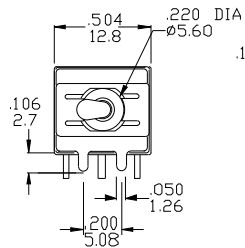
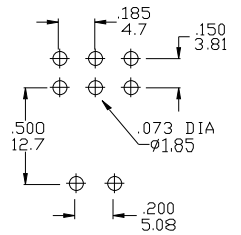
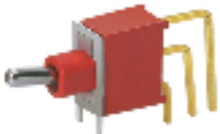


SPDT TYPE 11S1T2B4M6RE
TERMINATIONS


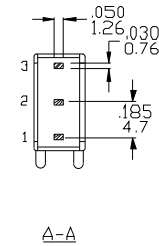
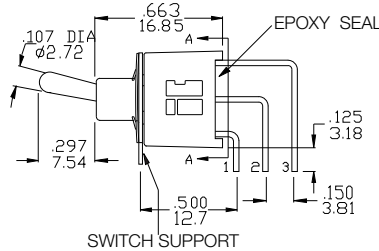
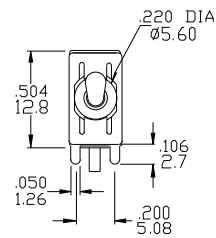
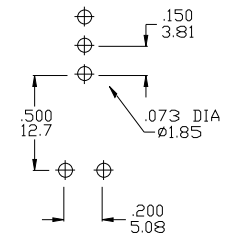
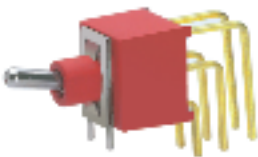
M6


P.C.MOUNTING

DPDT TYPE 22S1T2B4M6RE


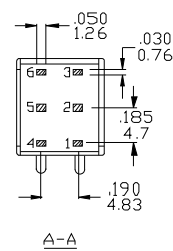
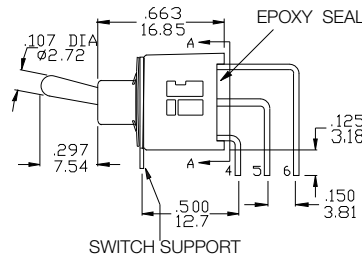
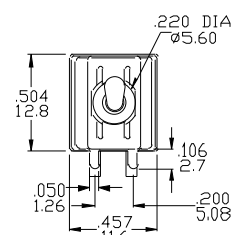
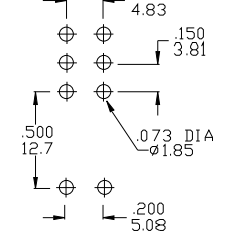
M6


P.C.MOUNTING

SPDT TYPE 11S1T2B4M7RE


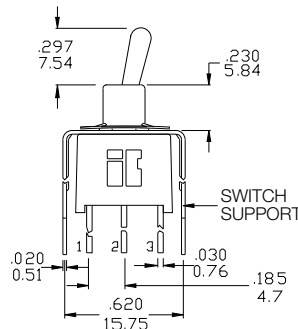
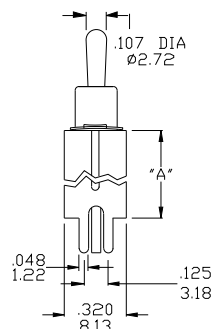
M7


P.C.MOUNTING

DPDT TYPE 21S1T2B4M7RE


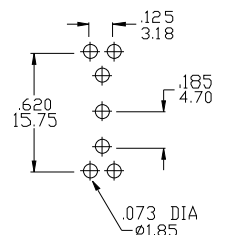
M7


P.C.MOUNTING

SPDT TYPE 12S1T1B4VS2RE


VS2-VS3



OPTION	
DIM. 2A2	
VS2	.460 11.68
VS3	.630 16.00

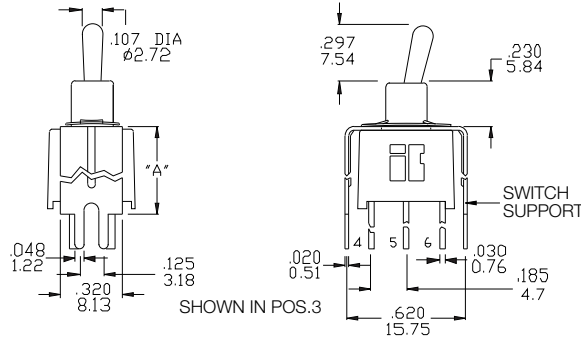
P.C.MOUNTING


DPDT TYPE 21S1T2B4VS2RE

TERMINATION OPTIONS

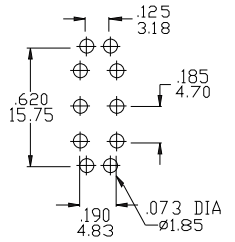


VS2-VS3

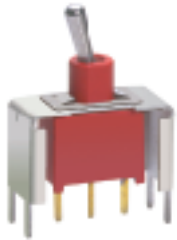


OPTION	
VS2	.460 11.68
VS3	.630 16.00

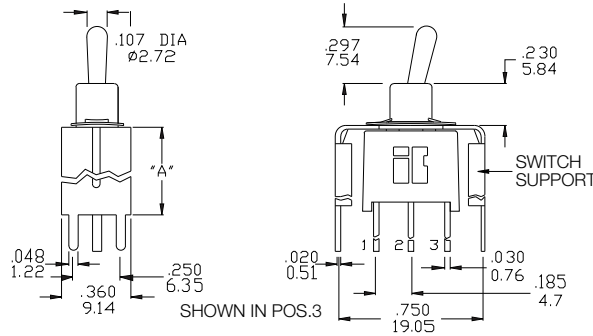
P.C. MOUNTING



SPDT TYPE 11S1T2B4VS4RE

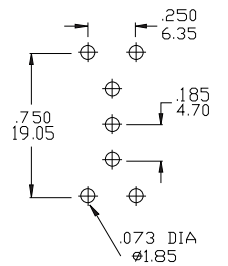


VS4-VS5



OPTION	
VS4	.460 11.68
VS5	.630 16.00

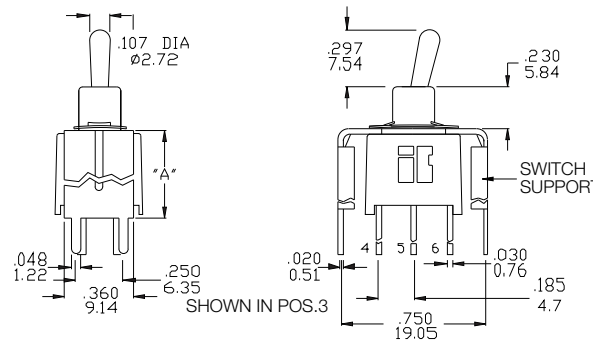
P.C. MOUNTING



DPDT TYPE 21S1T2B4VS4RE

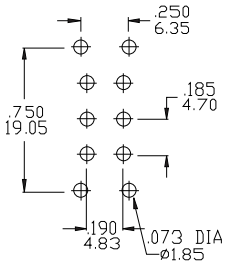


VS4-VS5



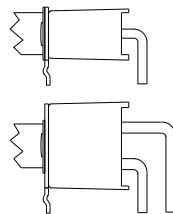
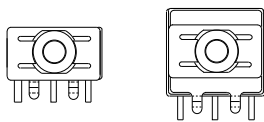
OPTION	
VS4	.460 11.68
VS5	.630 16.00

P.C. MOUNTING

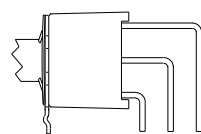
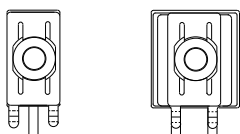


SNAP-IN TERMINATION OPTIONS

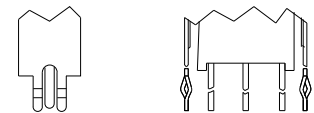
M61 SNAP-IN



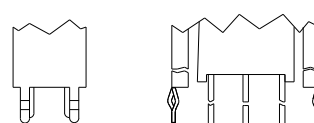
M71 SNAP-IN



VS21, VS3 SNAP-IN

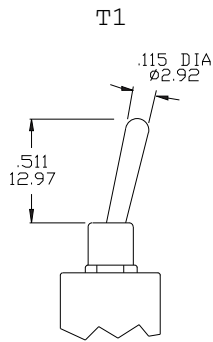


VS41, VS5 SNAP-IN

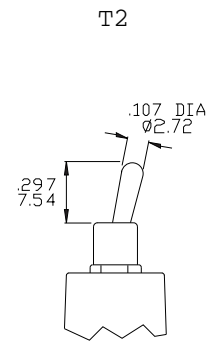


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

ACTUATOR OPTIONS

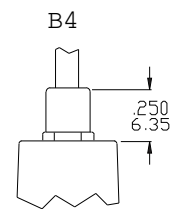
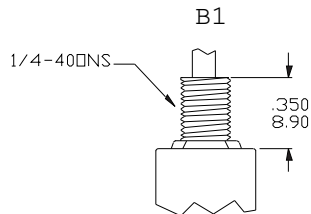


SUBTRACT 2.55 FOR B1 BUSHING

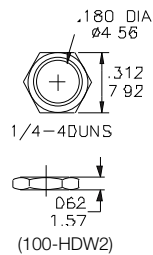


SUBTRACT 2.55 FOR B1 BUSHING

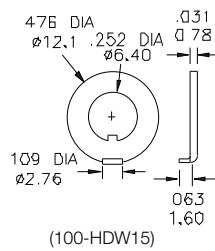
BUSHING OPTIONS



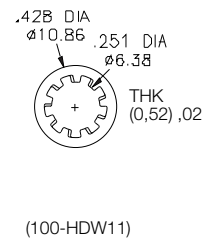
NUT



LOCKING RING



LOCK WASHER



ADDITIONAL HARDWARE SEE PAGE 7

CONTACT MATERIAL OPTIONS

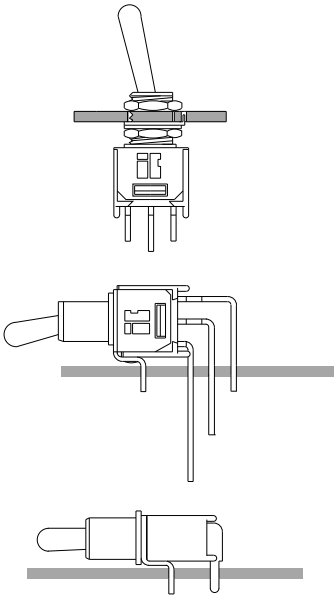
R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VAmx.@20VAC or DC max.

G
 End contacts : coin silver with gold plate over nickel plate
 Centre contacts : copper alloy with gold plate over nickel plate
 Terminals : copper alloy with gold plate over nickel plate

Rating : 5A@125VAC or 28VDC (resistive)
 : 2A@250 VAC (resistive)

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 14
 Electrical life: 30,000 make-and-break cycles at full load
 Contact resistance: 20mΩ max. initial @ 2-4VDC 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1.000MΩ min.
 Dielectric strength: 1,500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C

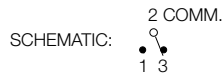
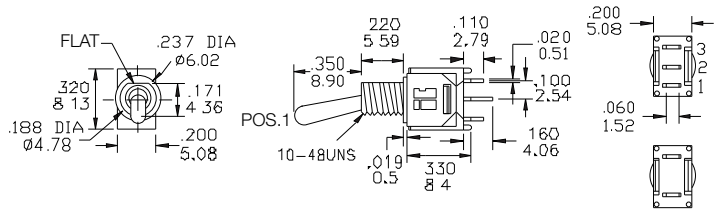
MATERIALS:

Toggle handle: brass, chrome plated
 Bushing: brass, nickel plated
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see page 1 or 14

SPDT TYPE 1102T1B1M1QE



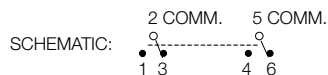
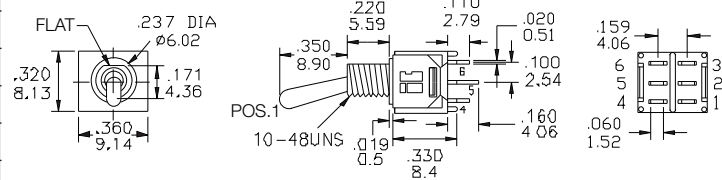
FUNCTION	SWITCH POSITION		
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



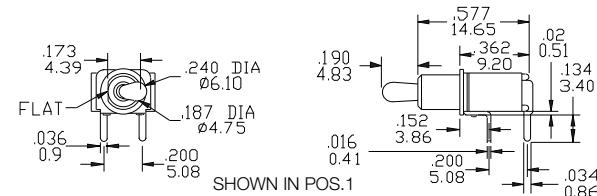
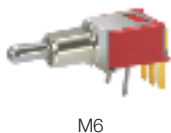
DPDT TYPE 2102T1B1M1QE



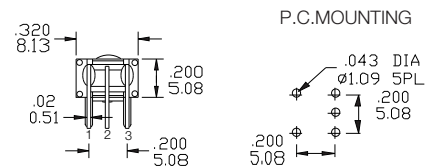
FUNCTION	SWITCH POSITION		
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3,	OPEN	2-1,



SPDT TYPE 1102T2B2M6RE

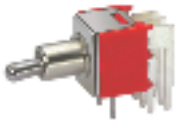


TERMINATION OPTIONS

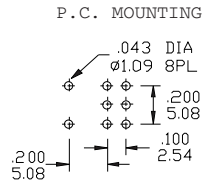
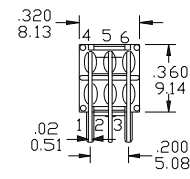
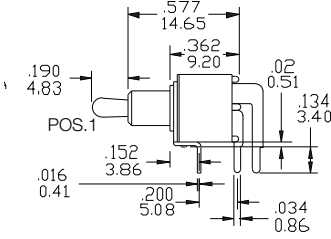
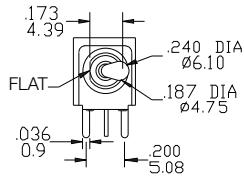


DPDT TYPE 2102T2B2M6QE

TERMINATION OPTIONS



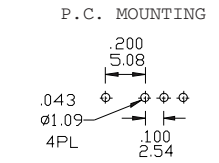
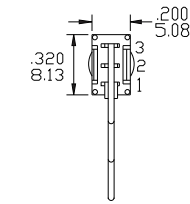
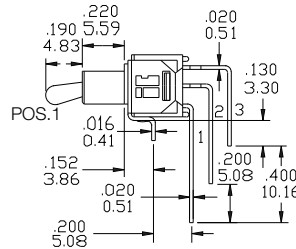
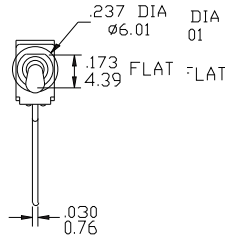
M6



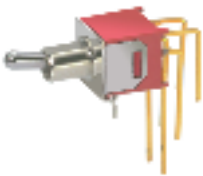
SPDT TYPE 1102T2B2M7RE



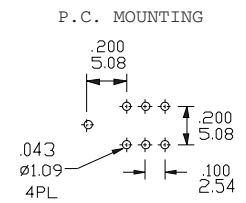
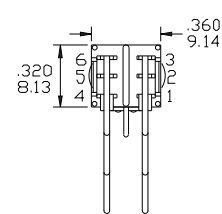
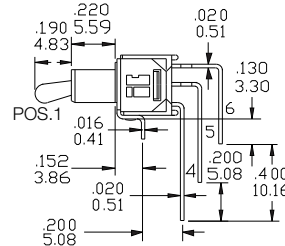
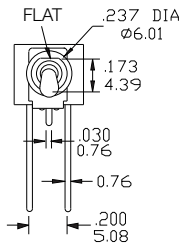
M7



DPDT TYPE 2102T2B2M7RE



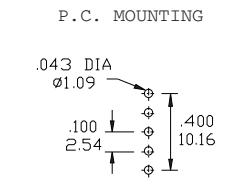
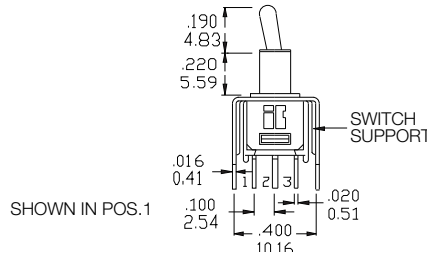
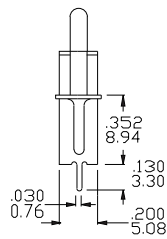
M7



SPDT TYPE 1102T2B2VS2RE



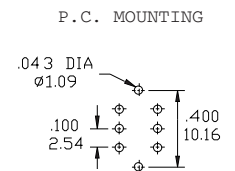
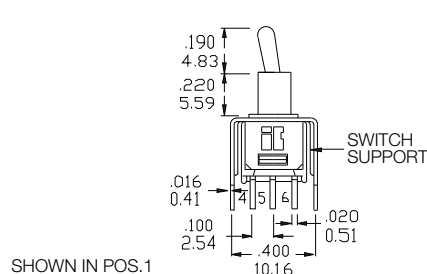
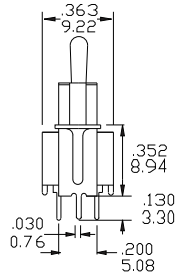
VS2



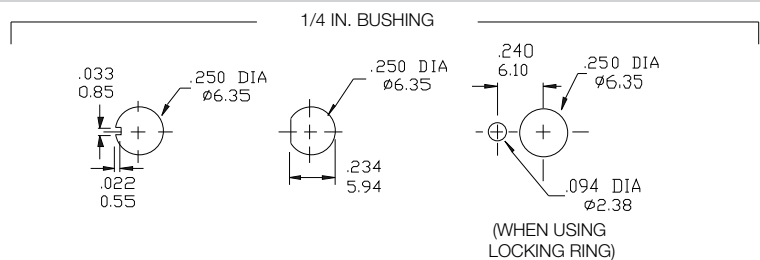
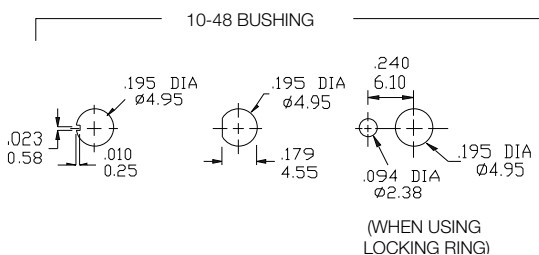
DPDT TYPE 2102T2B2VS2QE



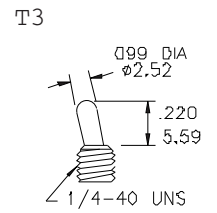
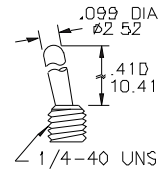
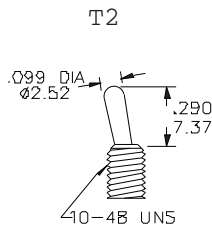
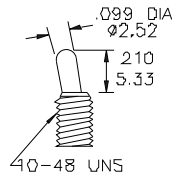
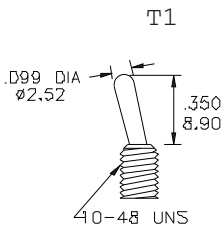
VS2



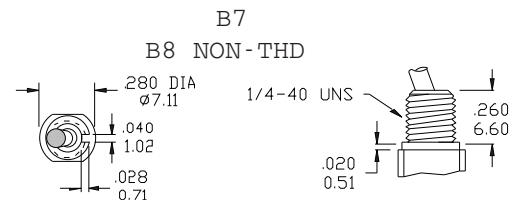
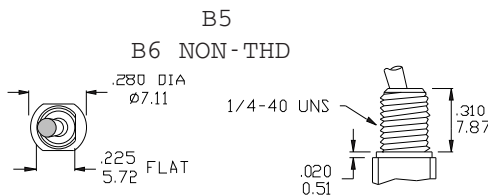
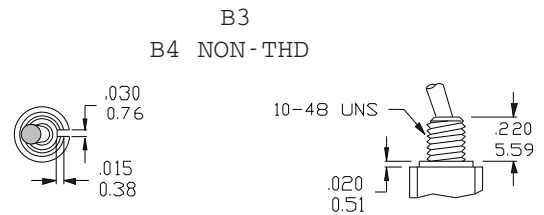
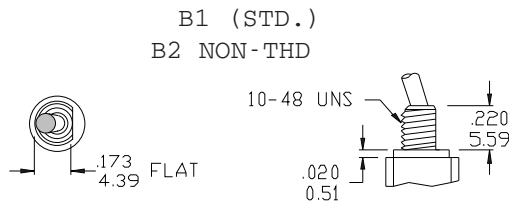
PANEL MOUNTING



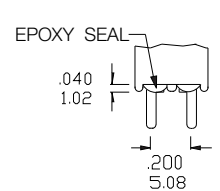
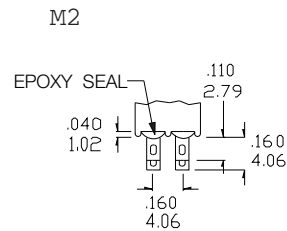
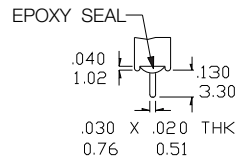
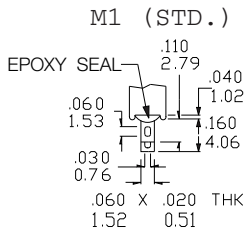
ACTUATOR OPTIONS



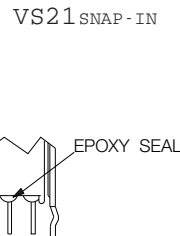
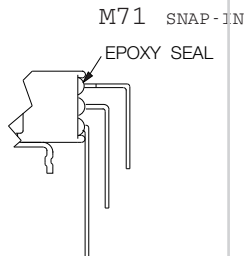
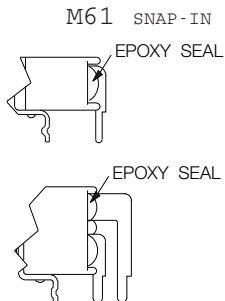
BUSHING OPTIONS



TERMINATION OPTIONS

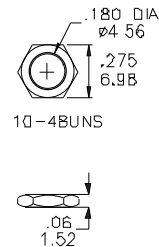


SNAP-IN TERMINATION OPTIONS

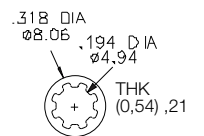


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

HARDWARE



FOR SERIES 02
(100-HDW21)



FOR SERIES 02
(100-HDW22)

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
Centre contacts: copper alloy silver plated
Terminals : copper alloy silver plated

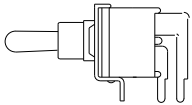
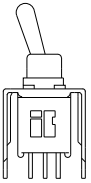
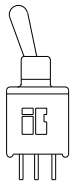
Rating : 3A@125VAC or 28VDC 1.5A@250VAC

R

End contacts : copper alloy, with gold plate over nickel plate
Centre contacts : copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate

Rating : 0.4VAmx.@20VAC or DC max.

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:




Contact rating: see page 1 or 17
 Electrical life: 60,000 make-and-break cycles at full load
 Contact resistance: 20 mΩ max. initial @ 2-4VDC
 100mA for both silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1,500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators

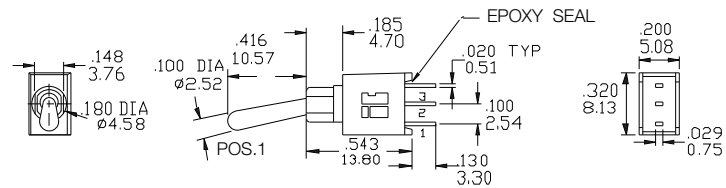
MATERIALS:

Toggle handle: brass, chrome plated
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see page 1 or 17

SPDT TYPE 11S2T2B4M2RE






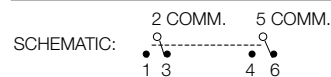
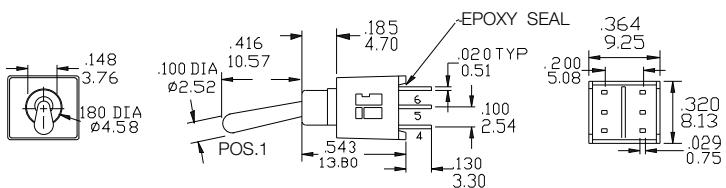
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



DPDT TYPE 21S2T1B4M2RE

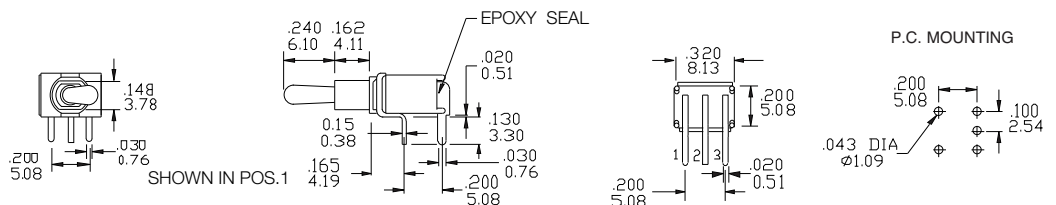
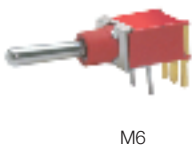


FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3,	OPEN	2-1,



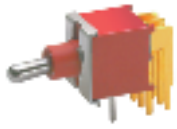
SPDT TYPE 11S2T1B4M6RE

TERMINATION OPTIONS

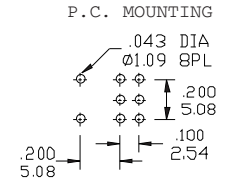
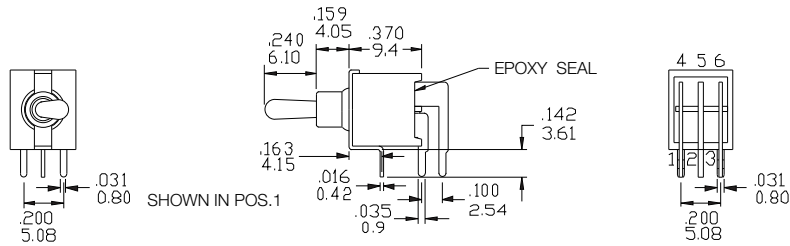


DPDT TYPE 21S2T2B4M6RE

TERMINATION OPTIONS



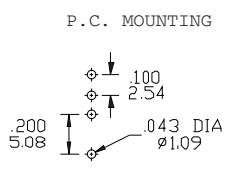
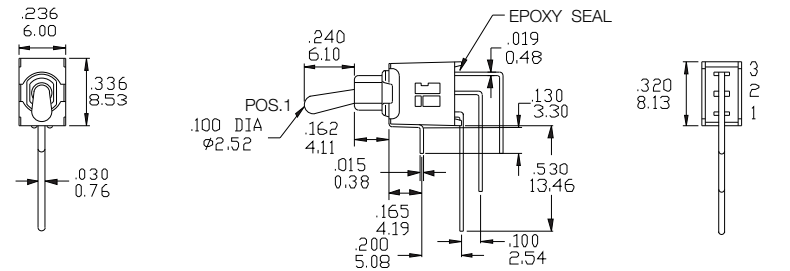
M6



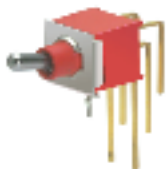
SPDT TYPE 11S2T2B4M7RE



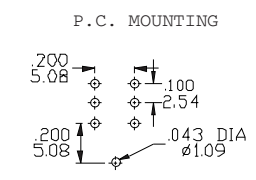
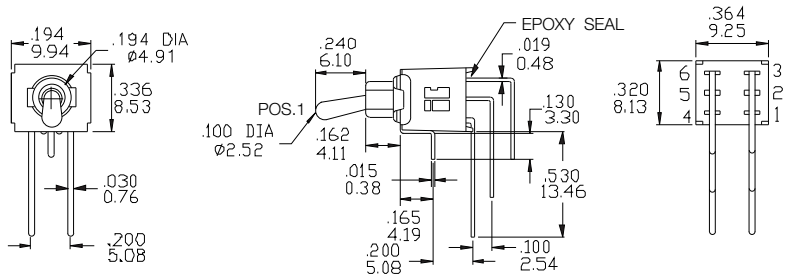
M7



DPDT TYPE 21S2T2B4M7RE



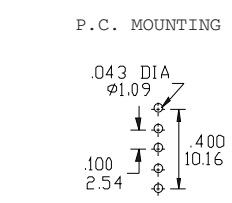
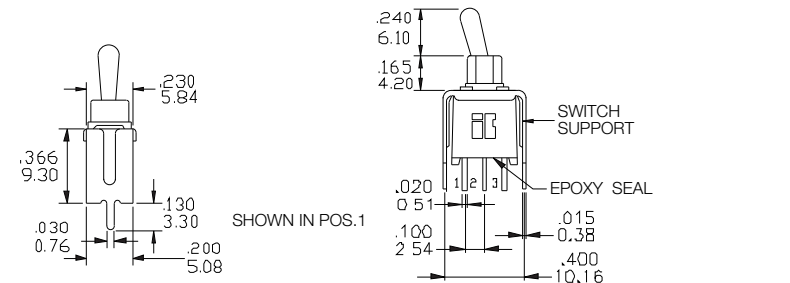
M7



SPDT TYPE 11S2T2B4VS2RE



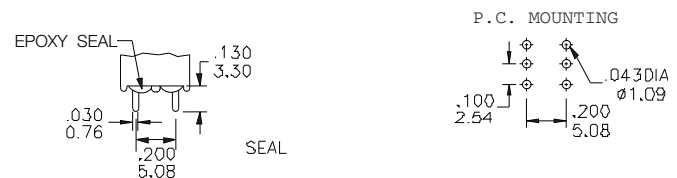
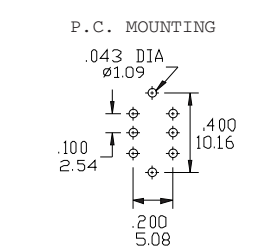
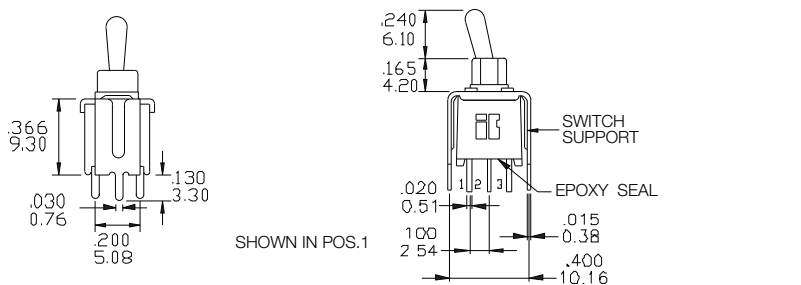
VS2



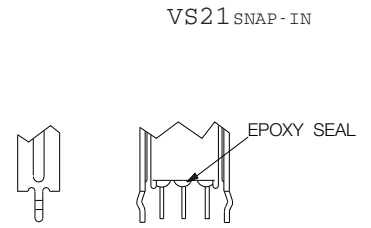
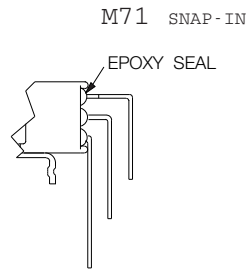
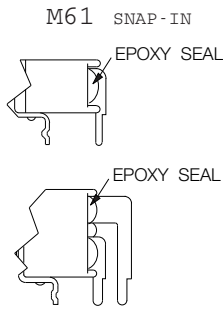
DPDT TYPE 21S2T2B4VS2RE



VS2

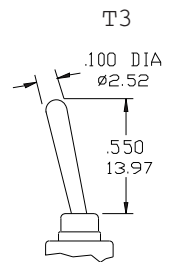
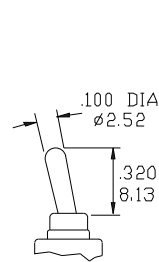
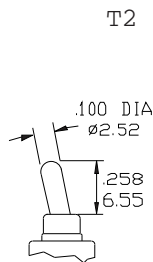
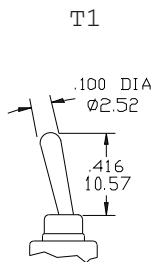


SNAP-IN TERMINATION OPTIONS

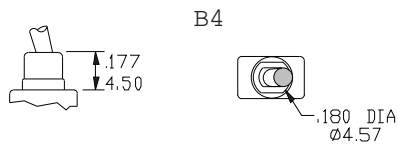


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

ACTUATOR OPTIONS



BUSHING OPTION



CONTACT MATERIAL OPTIONS

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VAm_{ax}.@20VAC or DC max.

G
 End contacts : coin silver with gold plate over nickel plate
 Centre contacts : copper alloy with gold plate over nickel plate
 Terminals : copper alloy with gold plate over nickel plate

Rating : 3A@125VAC or 28 VDC
 : 1,5A@250VAC

HOW TO ORDER SEE PAGE 1

SPECIFICATIONS :




Contact rating: see below or page 1
 Mechanical & electrical life: 60.000 make-and-break cycles
 Contact resistance: 20mΩ max. typ. initial @ 2-4VDC, 100mA
 Insulation resistance: 1.000MΩ min.
 Dielectric strength: 1.500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators

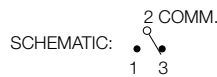
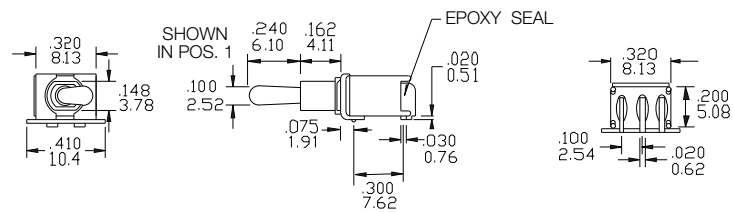
MATERIALS:

Toggle handle: brass, chrome plated
 Case & bushing: glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see below or page 1

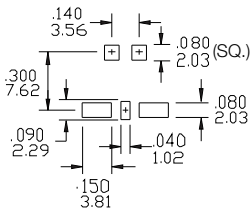
SPDT TYPE 11M2T2B4M6RE



FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3	OPEN	2-1



P.C. MOUNTING

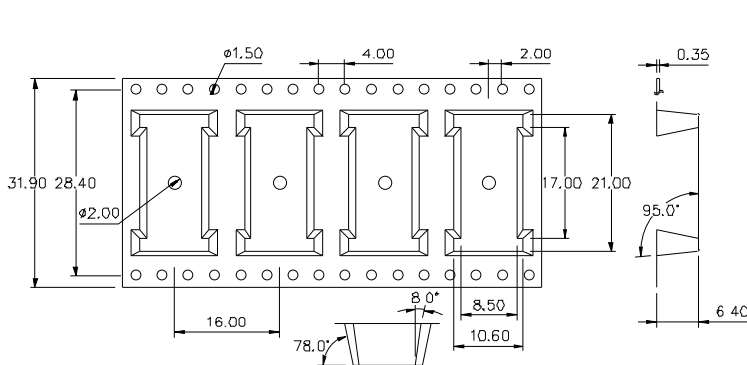


CONTACT MATERIAL OPTIONS

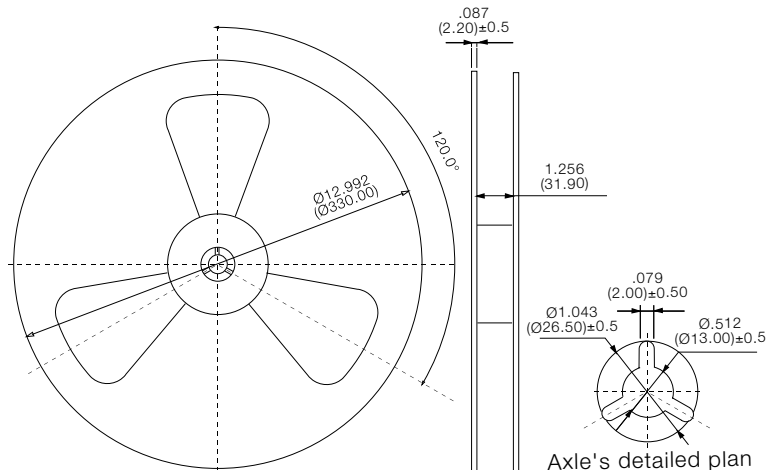
R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4 VA max. @ 20VAC or DC max.

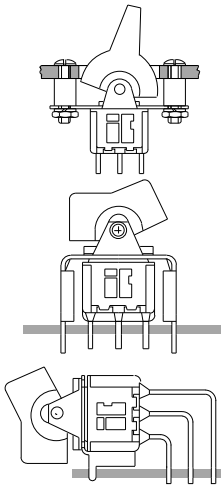
TAPE AND REEL DIMENSIONS



QUANTITY PER REEL (MOQ) : 400 PCS.
 (Bulk packing also available)



HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 25
 Electrical life: 50.000 make-and-break cycles at full load
 Contact resistance: 10mΩ max. initial @ 2-4VDC, 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1.000MΩ min.
 Dielectric strength: 1.500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C

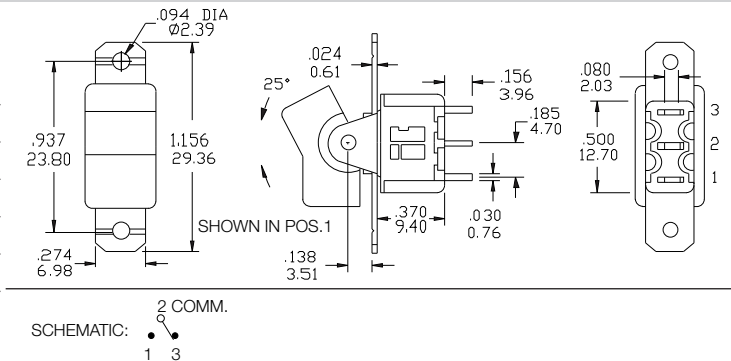
MATERIALS:

Rockers, levers: nylon (UL 94V-0)
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Mounting bracket: stainless steel
 Switch support: brass, tin plated
 Contact materials: see page 1 or 25

SPDT TYPE 1103R1M1QE2



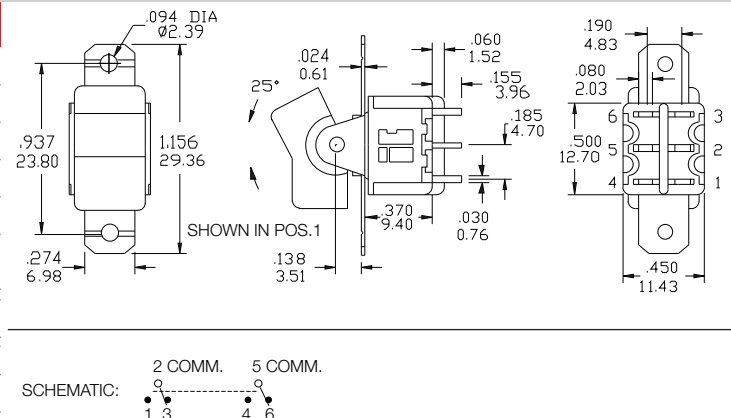
FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



DPDT TYPE 2103R1M1QE2



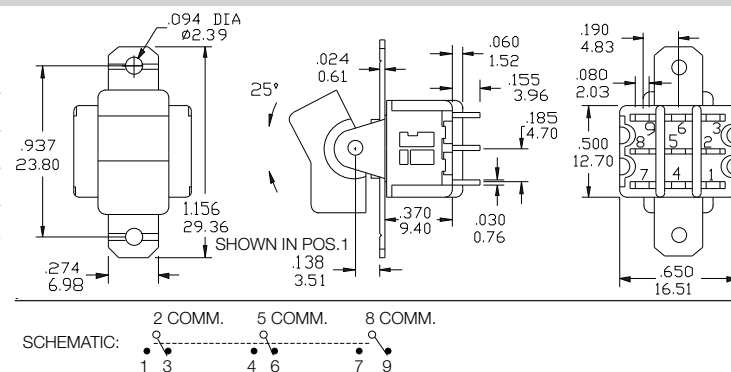
FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3, 5-6	OPEN	2-1, 5-4
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM.	2-3,	2-3,	2-1,



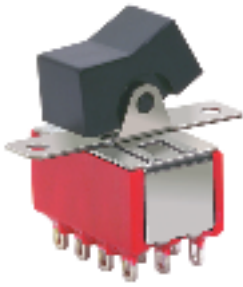
3PDT TYPE 3103R1M1QE2



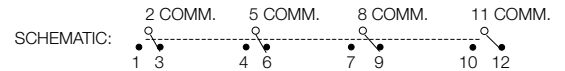
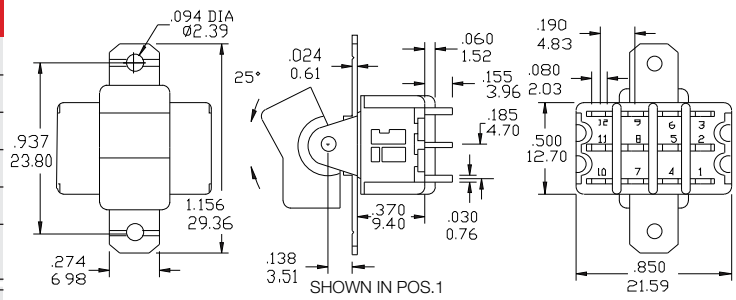
FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3,5-6	OPEN	2-1,5-4



4PDT TYPE 4103R1M1QE2



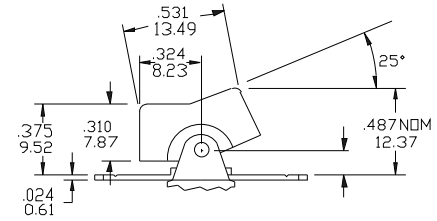
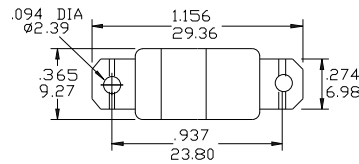
FUNCTION	SWITCH POSITION		
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3,5-6, 8-9,11-12	OPEN	2-1,5-4, 8-7,11-10
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM.	2-3,5-6,	2-3,5-4,	2-1,5-4,



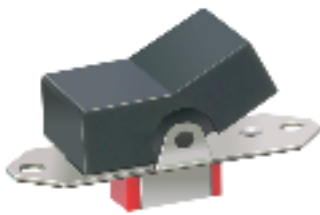
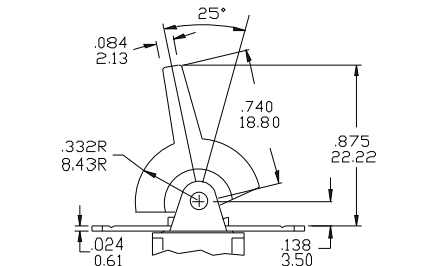
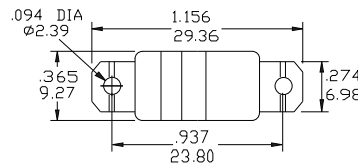
ACTUATOR OPTIONS



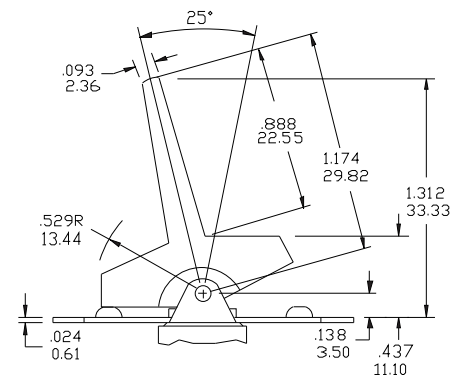
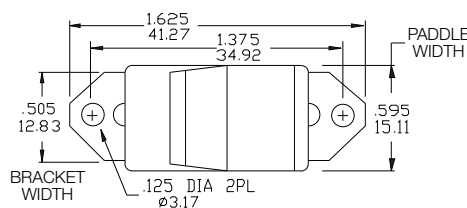
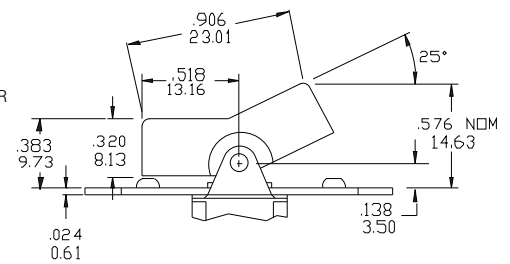
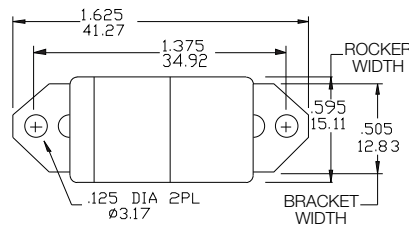
R1



R2



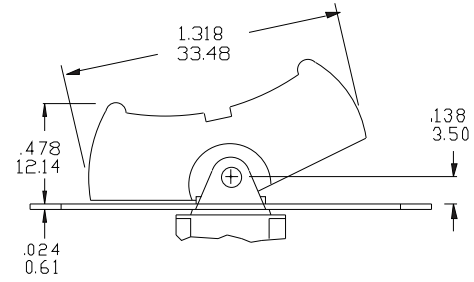
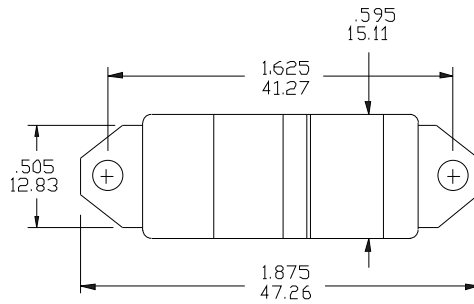
R3



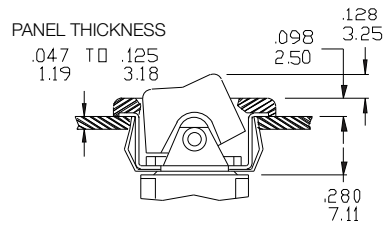
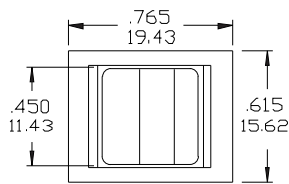
ACTUATOR OPTIONS



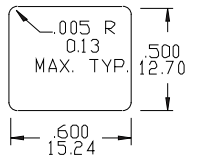
R5



R6
(R8 WITHOUT FRAME)



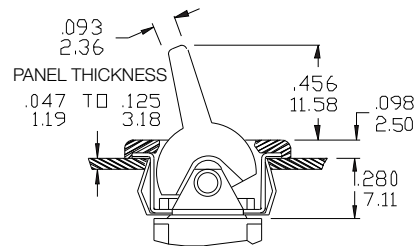
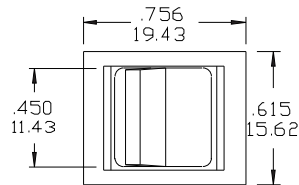
PANEL MOUNTING



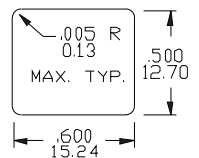
PARTNUMBER FRAME: 300-FR1



R7



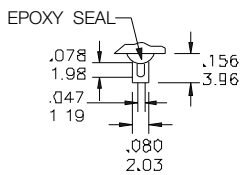
PANEL MOUNTING



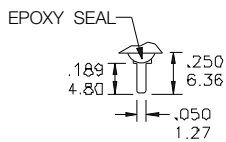
PARTNUMBER FRAME: 300-FR1

TERMINATION OPTIONS

M1 STD

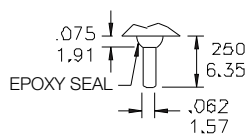


THK .030 (0.76)



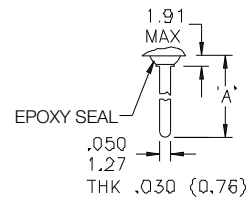
THK .030 (0.76)

M2



THK .030 (0.76)

M3 (QUICK CONNECT)



ROCKER, PADDLE AND FRAME COLORS

OPTION	
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.425(10.80)

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

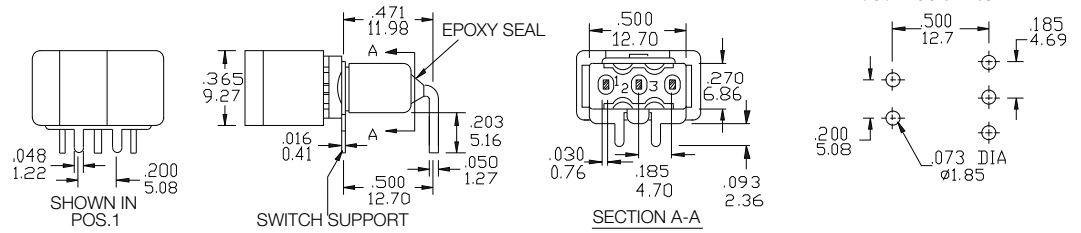
For other colors

SPDT TYPE 1103R1M6RE2

TERMINATION OPTIONS



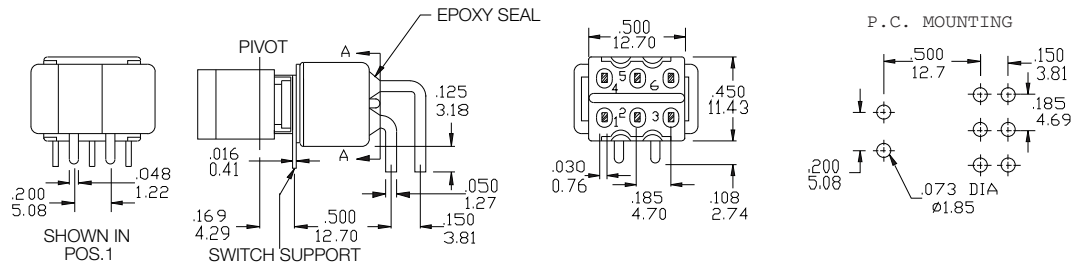
M6



DPDT TYPE 2103R1M6RE2



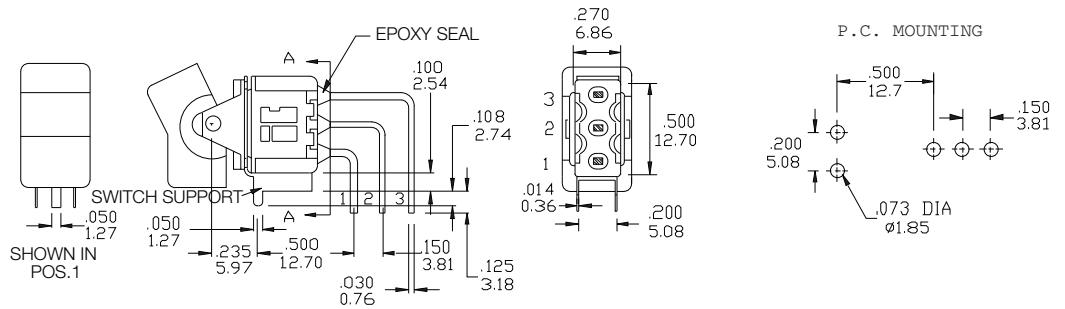
M6



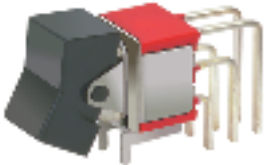
SPDT TYPE 1103R1M7QE2



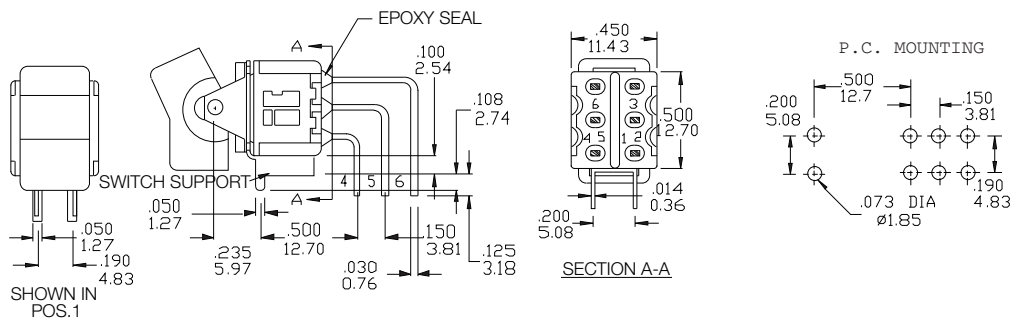
M7



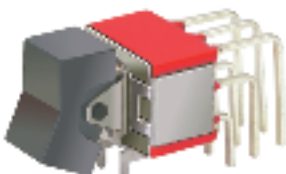
DPST TYPE 2103R1M7QE2



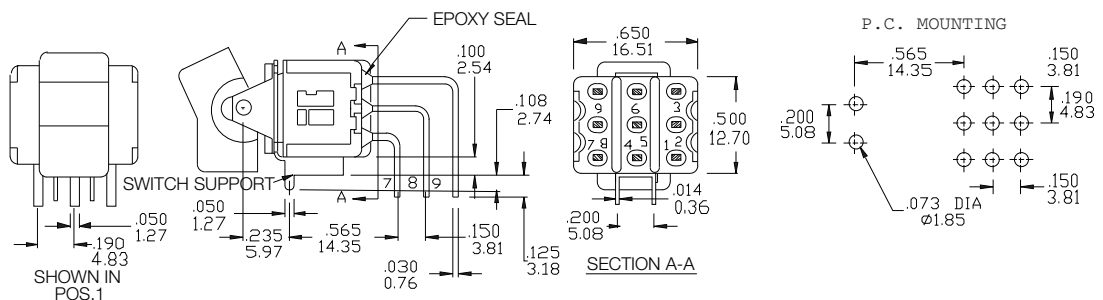
M7



3PDT TYPE 3103R1M7QE2

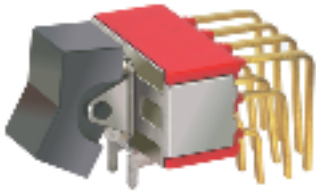


M7

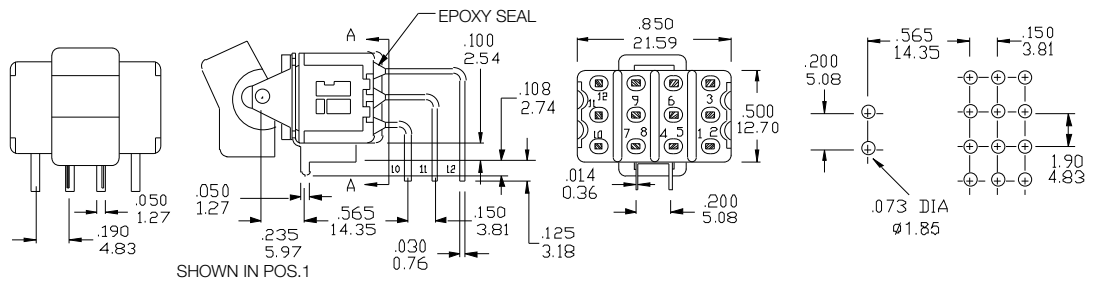


4PDT TYPE 4103R1M7RE2

TERMINATION OPTIONS



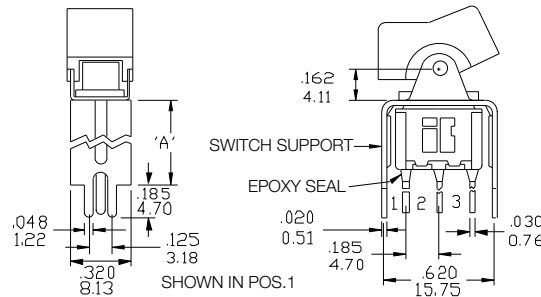
M7



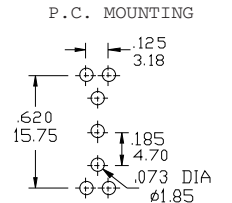
SPDT TYPE 1103R1VS2RE2



VS2-VS3



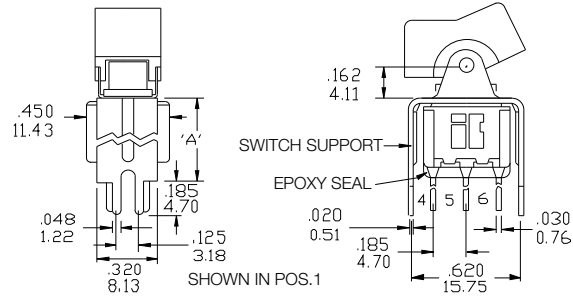
OPTION	
DIM. 2A2	
VS2	.460 11.68
VS3	.630 16.00



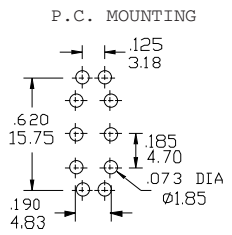
DPDT TYPE 2103R1VS2QE2



VS2-VS3



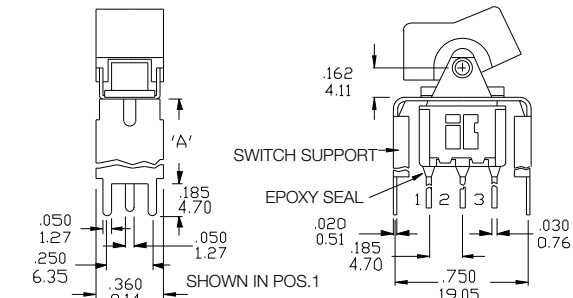
OPTION	
DIM. 2A2	
VS2	.460 11.68
VS3	.630 16.00



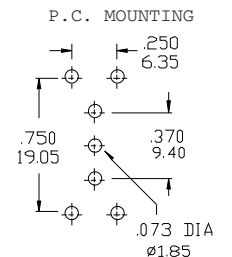
SPDT TYPE 1103R1VS4QE2



VS4-VS5



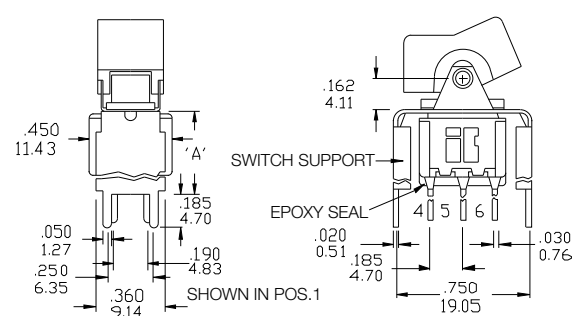
OPTION	
DIM. 2A2	
VS4	.460 11.68
VS5	.630 16.00



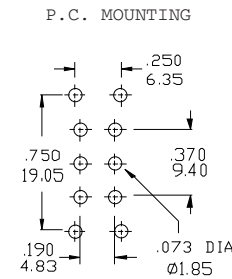
DPDT TYPE 2103R1VS4QE2



VS4-VS5



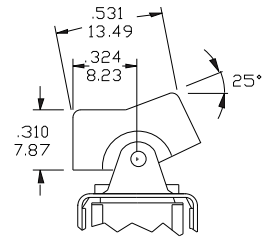
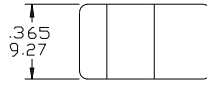
OPTION	
DIM. 2A2	
VS4	.460 11.68
VS5	.630 16.00



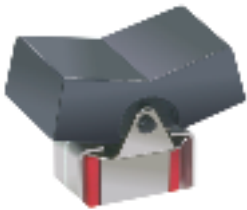
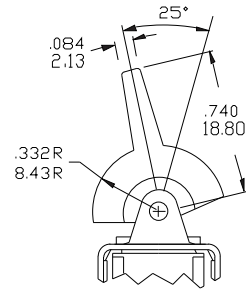
ACTUATOR OPTIONS (P.C. MOUNT)



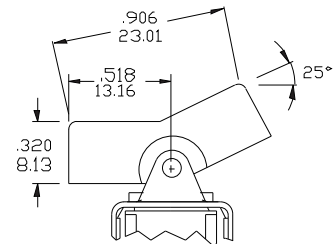
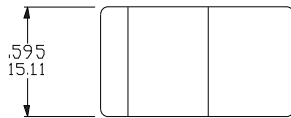
R1



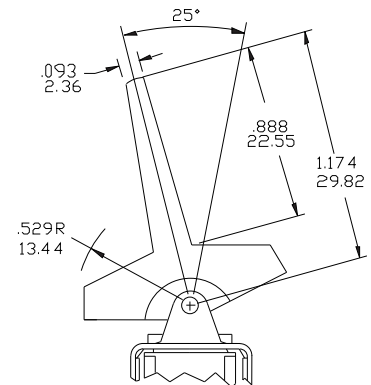
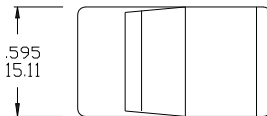
R2



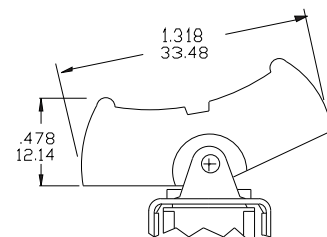
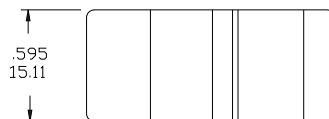
R3



R4



R5



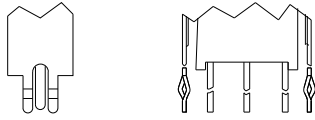


03 Series

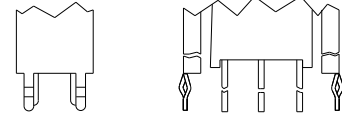
Miniature Rocker & Paddle Switches

SNAP-IN TERMINATION OPTIONS

VS21, VS3 SNAP-IN



VS41, VS5 SNAP-IN



SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
Centre contacts: copper alloy silver plated
Terminals : copper alloy silver plated

Rating : 5A@125VAC or 28VDC(resistive) 2A@250VAC (resistive)

R

End contacts : copper alloy, with gold plate over nickel plate
Centre contacts : copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VAm_{max}.@20VAC or DC max.

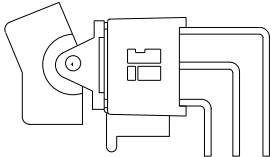
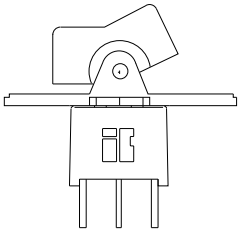
HOW TO ORDER SEE PAGE 1

SPECIFICATIONS:

Contact rating: see page 1 or 29
 Electrical life: 30,000 make-and-break cycles at full load
 Contact resistance: below 10mΩ max. initial @ 2-4VDC 100mA for both silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1500V RMS min @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators




MATERIALS:

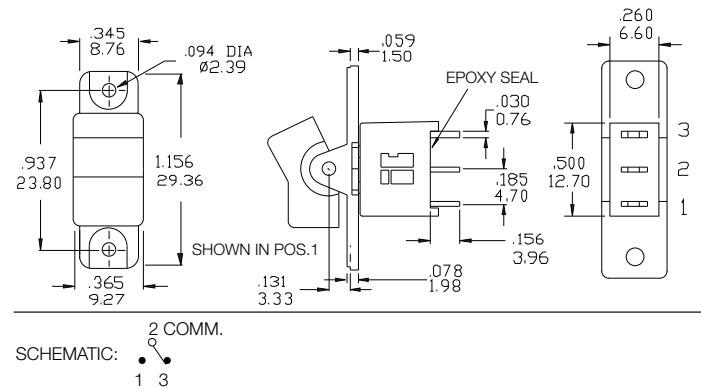
Rockers, levers: nylon (UL 94V-0)
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Mounting bracket: stainless steel or nylon (UL 94V-0)
 Switch support: brass, tin plated
 Contact materials: see page 1 or 29



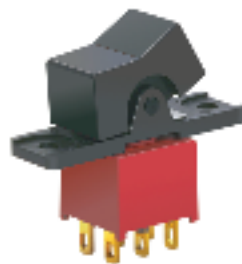
SPDT TYPE 11S3R1M1RE2






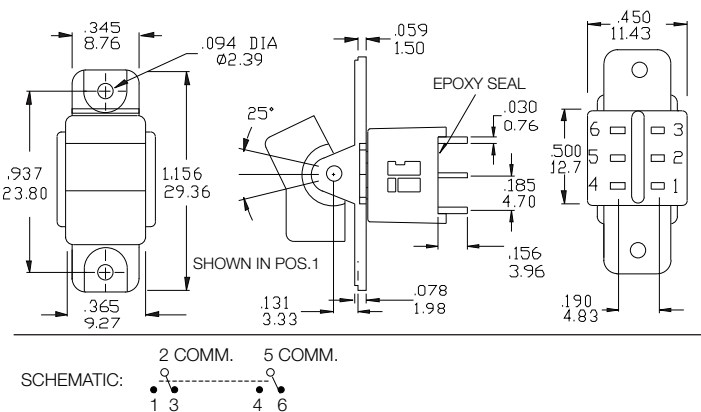
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



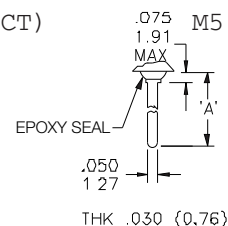
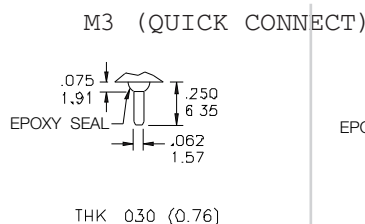
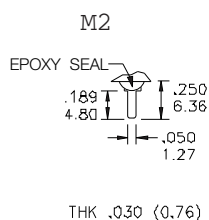
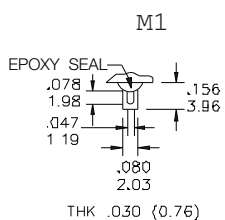
DPDT TYPE 21S3R1M1RE2



FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3, 5-6	OPEN	2-1, 5-4
6*	ON	ON	ON
7*	ON	ON	(ON)
8*	(ON)	ON	(ON)
TERM.	2-3,	2-3,	2-1,



TERMINATION OPTIONS

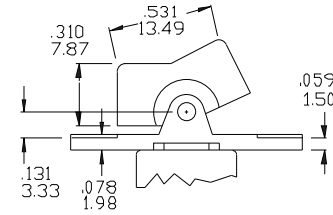
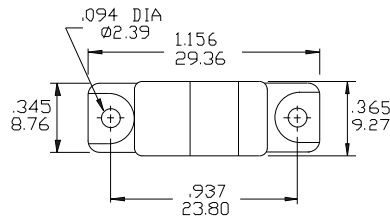


OPTION	
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.425(10.80)

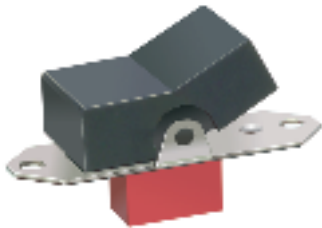
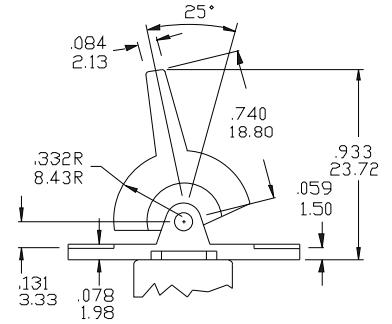
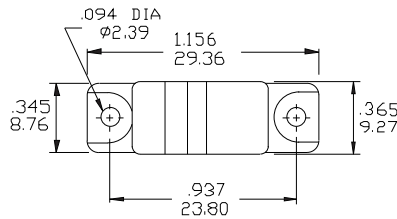
ACTUATOR OPTIONS



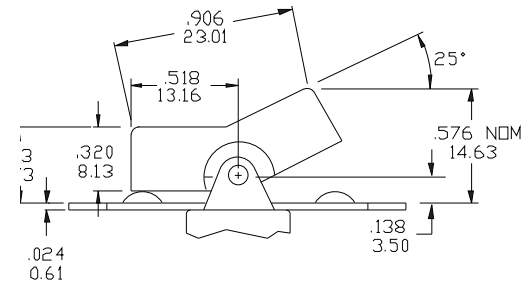
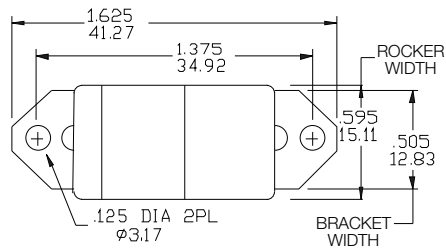
R1



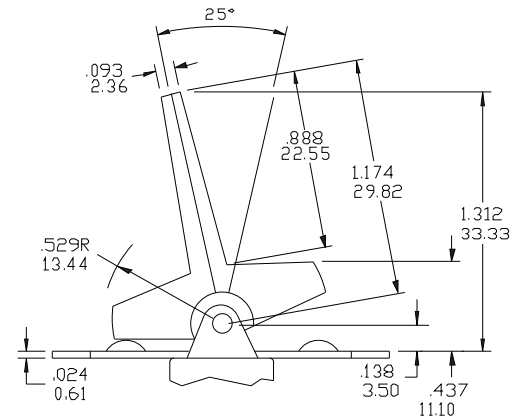
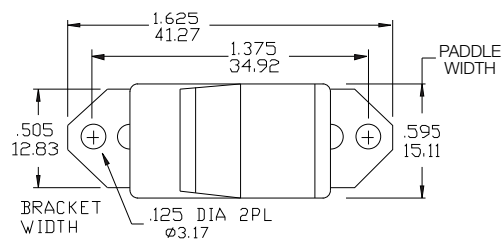
R2



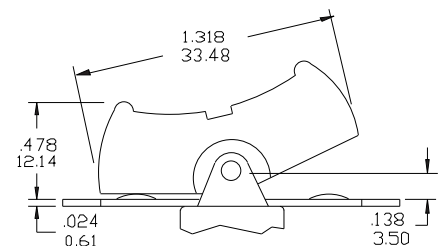
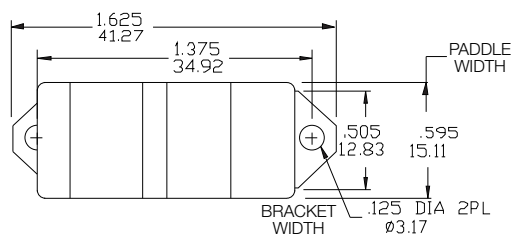
R3



R4



R5

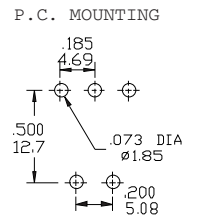
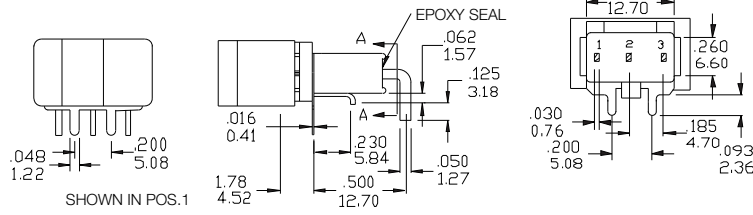


SPDT TYPE 11S3R1M6RE2

TERMINATION OPTIONS



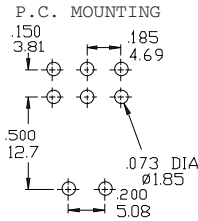
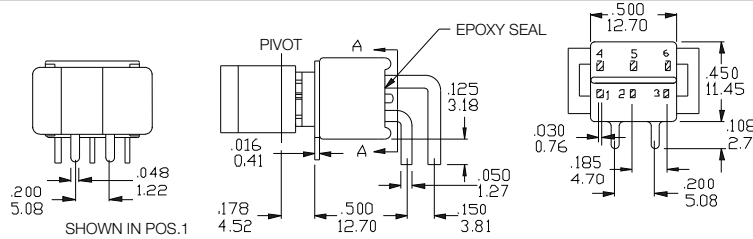
M6



DPDT TYPE 21S3R1M6RE2



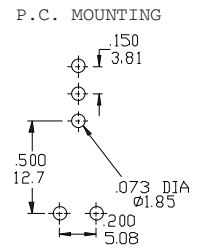
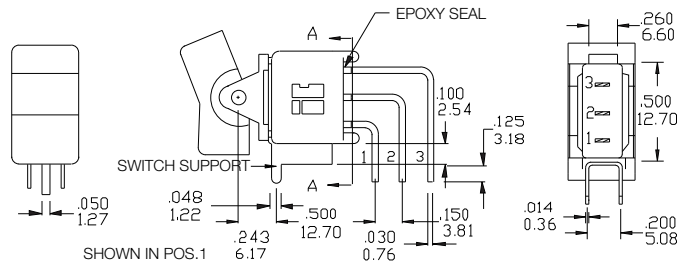
M6



SPDT TYPE 11S3R1M7RE2



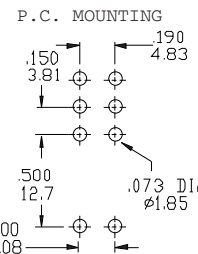
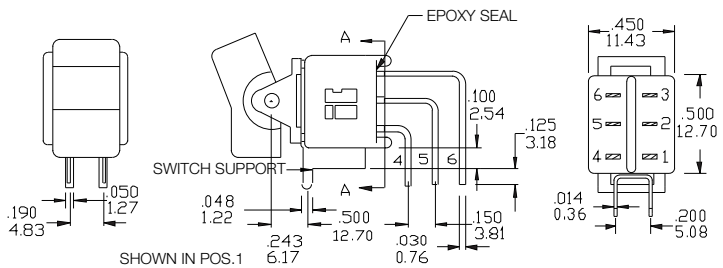
M7



DPDT TYPE 21S3R1M7RE2



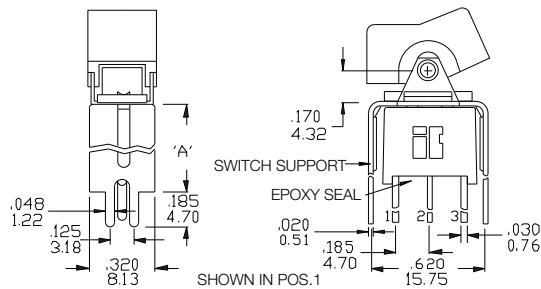
M7



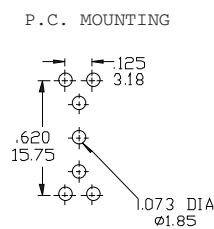
SPDT TYPE 11S3R1VS2RE2



VS2-VS3



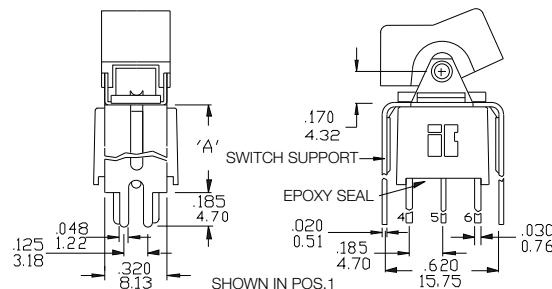
OPTION	
VS2	.460 11.68
VS3	.630 16.00



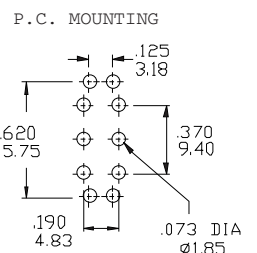
DPDT TYPE 21S3R1VS2RE2

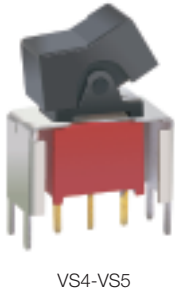


VS2-VS3

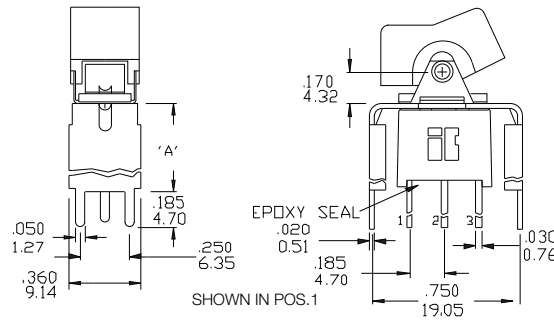


OPTION	
VS2	.460 11.68
VS3	.630 16.00

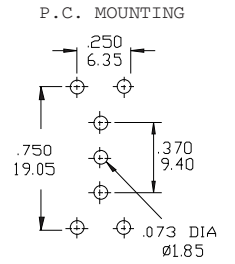


SPDT TYPE 11S3R1VS4RE2
TERMINATION OPTIONS


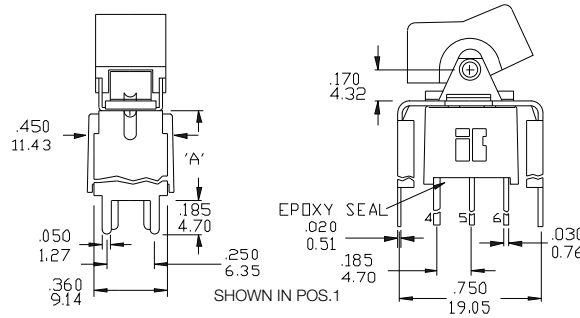
VS4-VS5



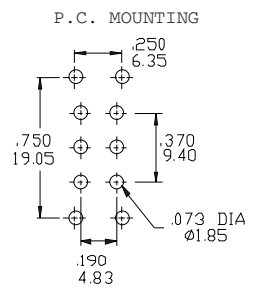
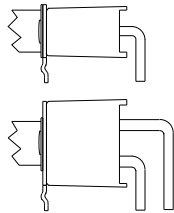
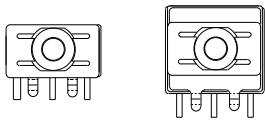
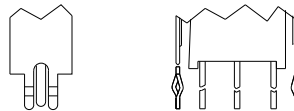
OPTION	
VS4	.460 11.68
VS5	.630 16.00


DPDT TYPE 21S3R1VS4RE2


VS4-VS5

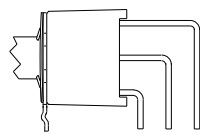
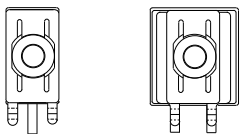
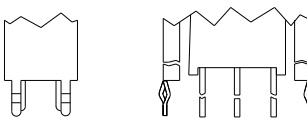


OPTION	
VS4	.460 11.68
VS5	.630 16.00


SNAP-IN TERMINATION OPTIONS
COLORS
M61 SNAP-IN

VS21, VS3 SNAP-IN

ACTUATOR

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

M71 SNAP-IN

VS41, VS5 SNAP-IN


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

CONTACT MATERIAL OPTIONS

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4 VA max. @ 20VAC or DC max.

G
 End contacts : coin silver with gold plate over nickel plate
 Centre contacts : copper alloy with gold plate over nickel plate
 Terminals : copper alloy with gold plate over nickel plate

Rating : 5A@125VAC or 28VDC (resistive)
 : 2A@ 250 VAC (resistive)

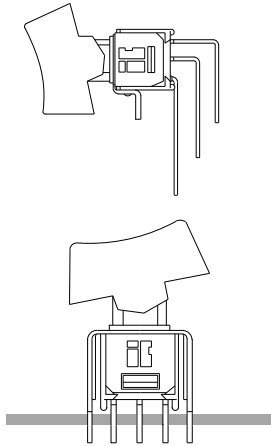
HOW TO ORDER SEE PAGE 1

SPECIFICATIONS:

Contact rating: see page 1 or 32
 Electrical life: 30,000 make-and-break cycles at full load
 Contact resistance: 20mΩ max. initial @ 2.4VDC, 100mA for both coin and gold plated contacts
 Insulation resistance: 1,000MΩ min
 Dielectric strength: 1,500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C




MATERIALS:

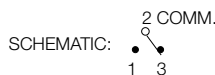
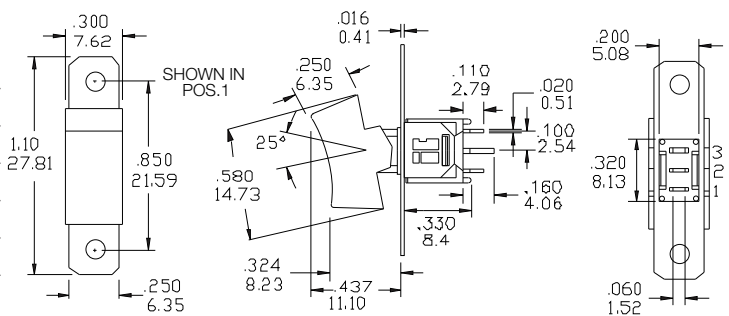
Rockers: nylon (UL 94V-0)
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Mounting bracket: stainless steel
 Switch support: brass, tin plated
 Contact materials: see page 1 or 32



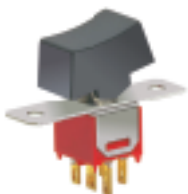
SPDT TYPE 1104R1M1QE2






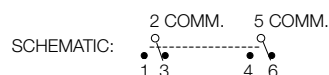
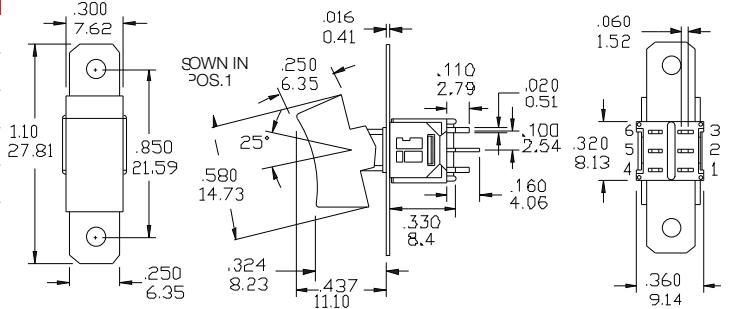
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



DPDT TYPE 2104R1M1RE2



FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3,	OPEN	2-1,

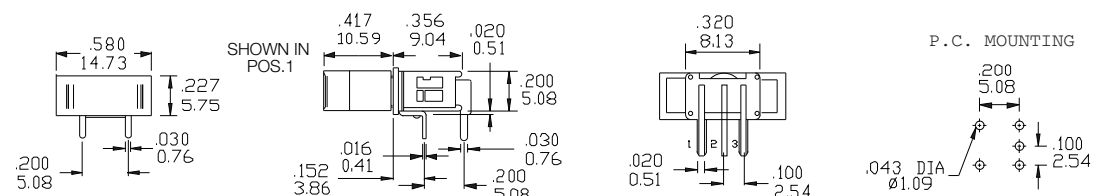


SPDT TYPE 1104R1M6RE2

TERMINATION OPTIONS



M6

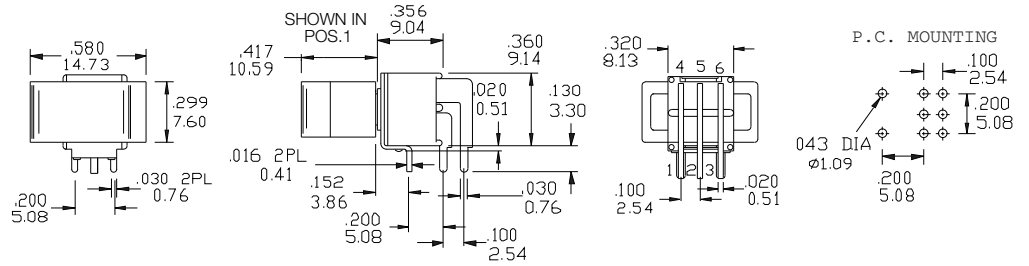


DPDT TYPE 2104R1M6RE2

TERMINATION OPTIONS



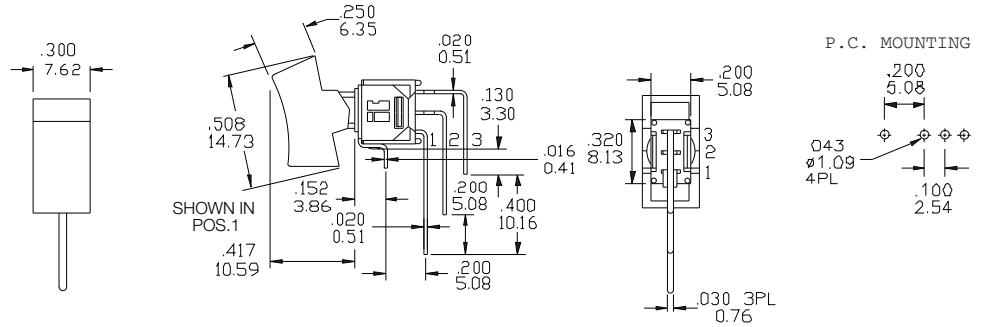
M6



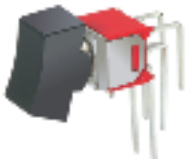
SPDT TYPE 1104R1M7QE2



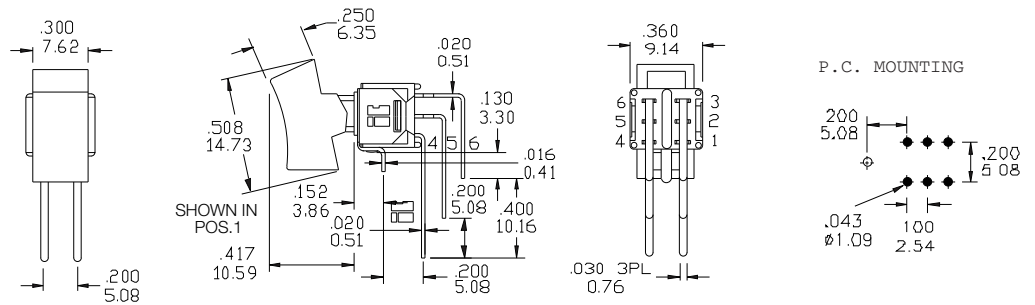
M7



DPDT TYPE 2104R1M7QE2



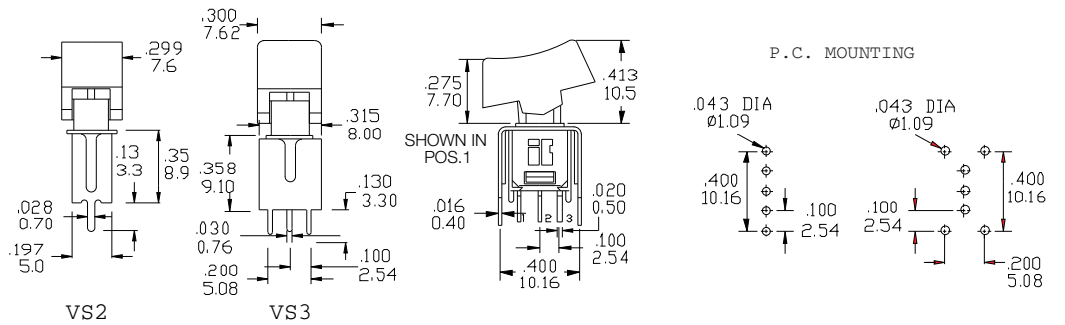
M7



SPDT TYPE 1104R1VS2RE2



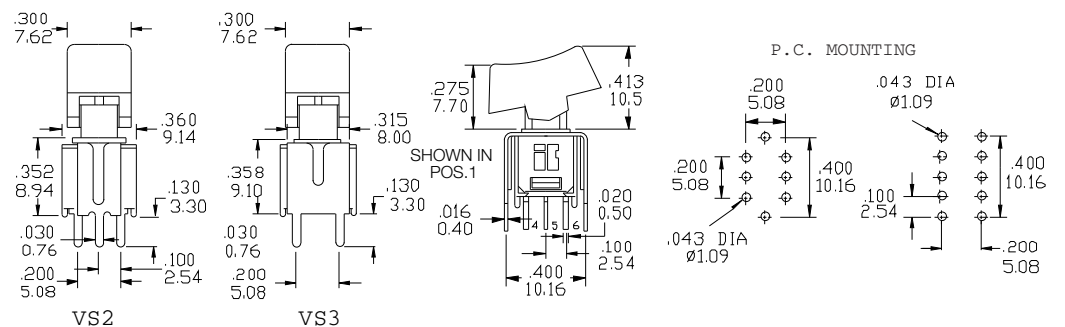
VS2-VS3



DPDT TYPE 2104R1VS2RE2



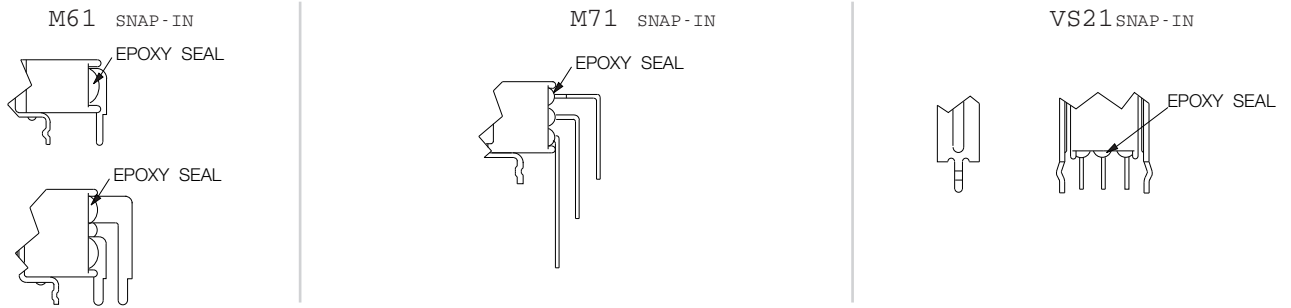
VS2-VS3



TERMINATION OPTIONS

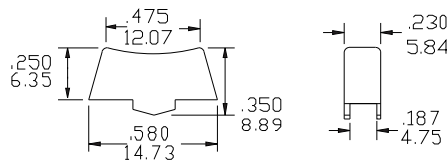
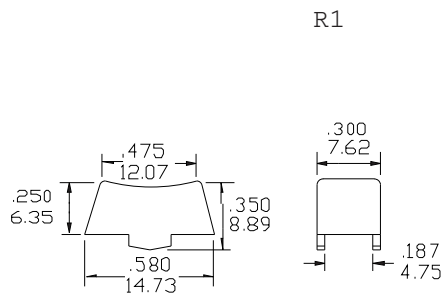


SNAP-IN TERMINATION OPTIONS



SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

ACTUATOR OPTIONS



COLORS

R2
ACTUATOR

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
Centre contacts: copper alloy silver plated
Terminals : copper alloy silver plated

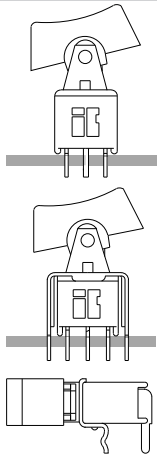
Rating : 3A@125VAC or 28VDC 1,5A@250VAC

R

End contacts : copper alloy, with gold plate over nickel plate
Centre contacts: copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4Vamax.@20VAC or DC max.

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:




Contact rating: see page 1 or 35
 Electrical life: 50,000 make-and-break cycles at full load.
 Contact resistance: 20mΩ max, initial @ 2-4VDC, 100mA for both silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1500V RMS max. @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators

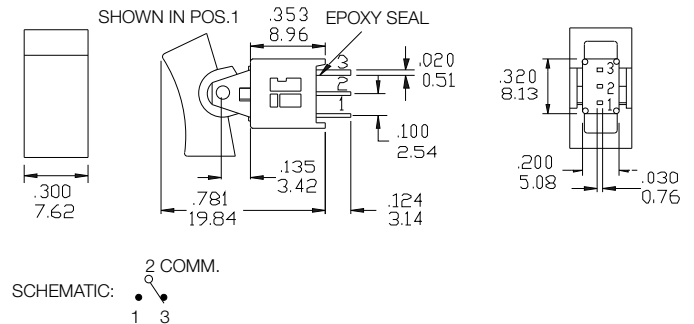
MATERIALS:

Rocker: nylon, black std. (UL 94V-0)
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see page 1 or 35

SPDT TYPE 11S4R1M2RE2






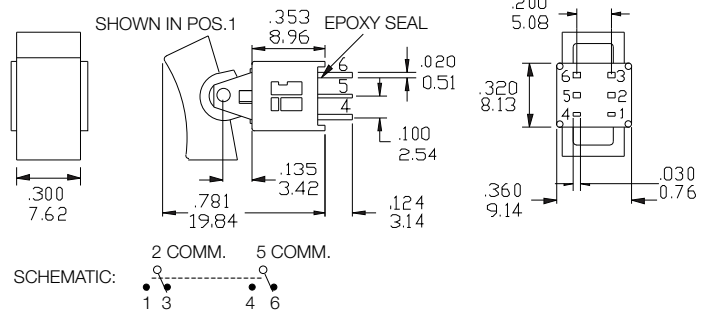
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM. CONN.	2-3	OPEN	2-1



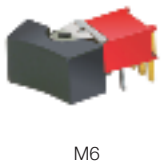
DPDT TYPE 21S4R1M2RE2



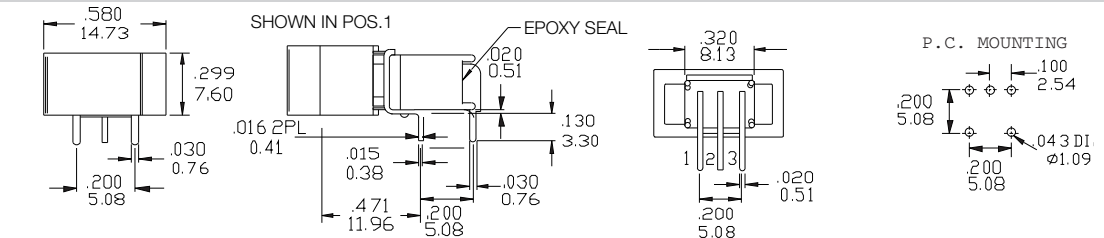
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
3	ON	OFF	(ON)
4	(ON)	OFF	(ON)
5	ON	NONE	(ON)
TERM.	2-3,	OPEN	2-1,



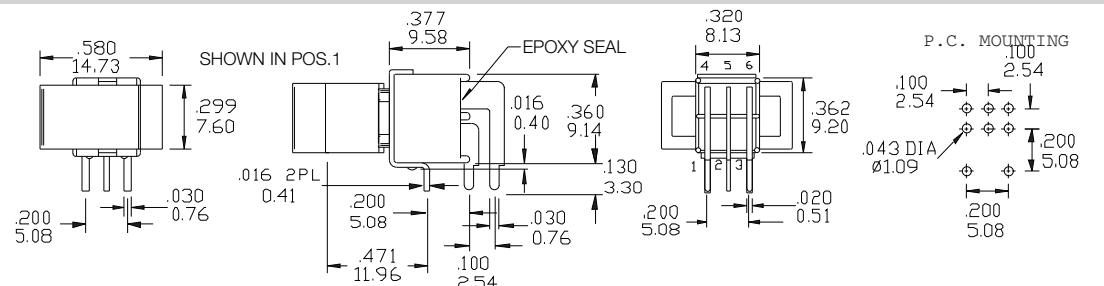
SPDT TYPE 11S4R1M6RE2



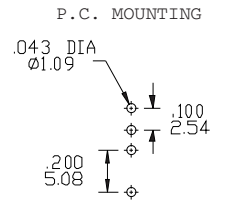
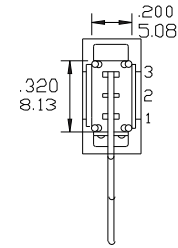
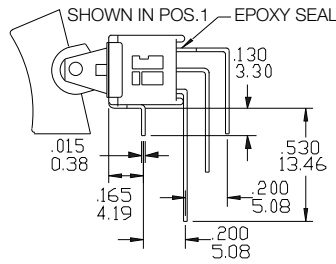
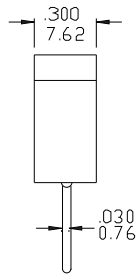
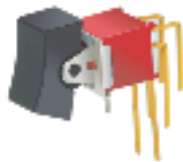
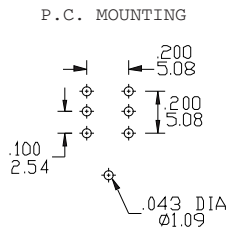
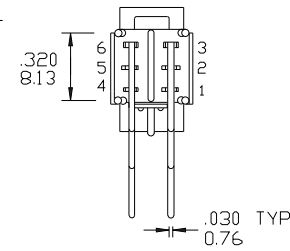
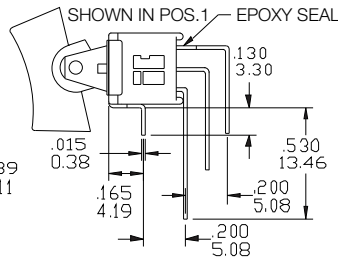
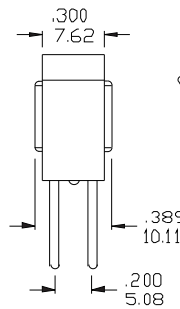
TERMINATION OPTIONS

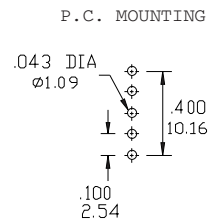
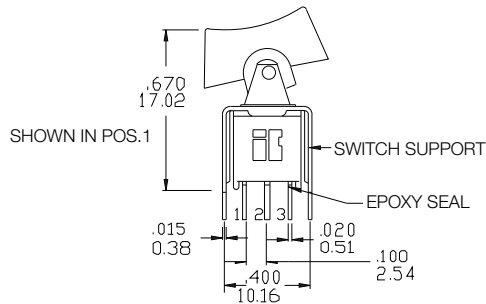
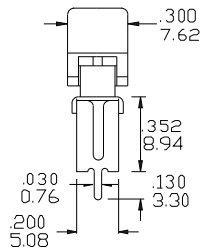


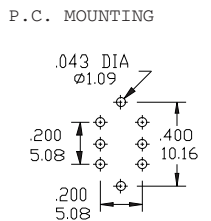
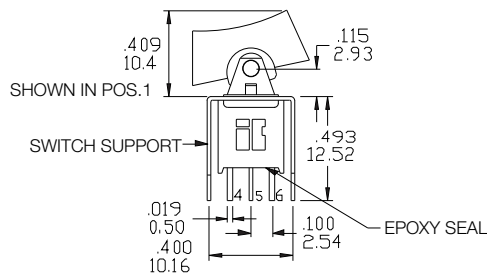
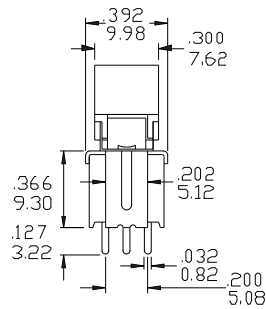
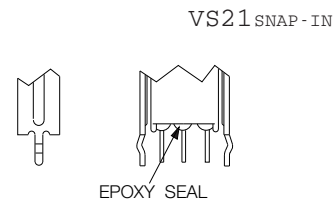
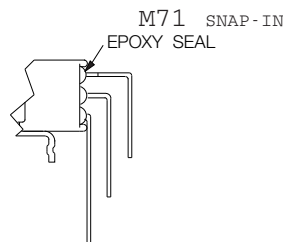
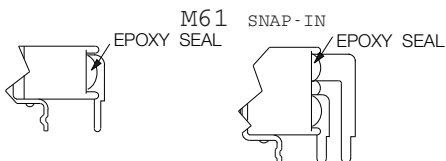
DPDT TYPE 21S4R1M6RE2



SPDT TYPE 11S4R1M7RE2
TERMINATION OPTIONS

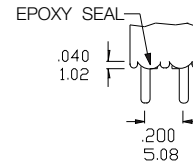
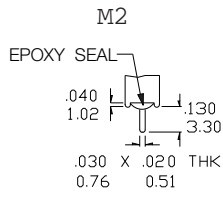
M7

DPDT TYPE 21S4R1M7RE2

M7

SPDT TYPE 11S4R1VS2RE2

VS2

DPDT TYPE 21S4R1VS2RE2

VS2

SNAP-IN TERMINATION OPTIONS


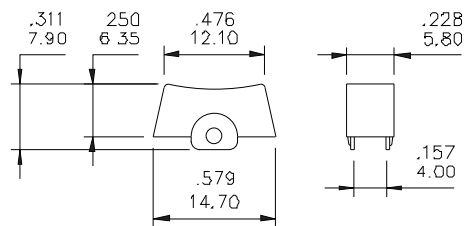
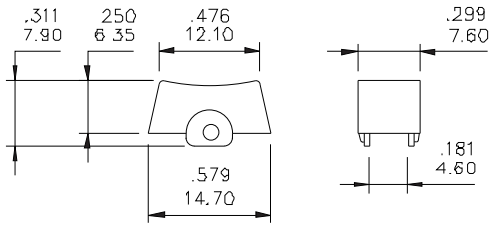
SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

TERMINATION OPTIONS



ACTUATOR OPTIONS

R1



ACTUATOR R2

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

CONTACT MATERIAL OPTIONS

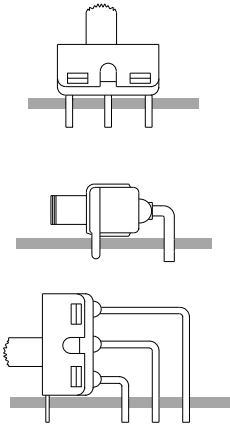
R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4Vmax.@20VAC or DC max.

G
 End contacts : coin silver with gold plate over nickel plate
 Centre contacts : copper alloy with gold plate over nickel plate
 Terminals : copper alloy with gold plate over nickel plate

Rating : 3A@125VAC or 28 VDC
 : 1,5A@250VAC

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 38
 Contact resistance: 10mΩ max. initial @ 2-4VDC, 100mA for both coin silver and gold plated contacts
 Electrical life: 30,000 actuations at full load
 Insulation resistance: 1,000MΩ min.
 Dielectric strengths: 1,500V RMS @ sea level
 Operation temperature: -30 °C to 85 °C

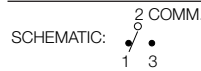
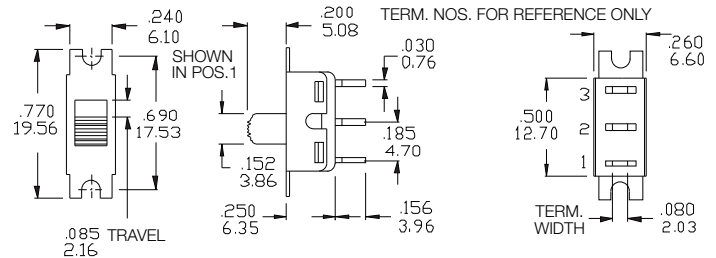
MATERIALS:

Slide handel: nylon (UL 94V-0)
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see page 1 or 38

SPDT TYPE 1105S1M1RE2



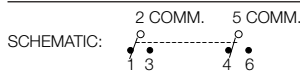
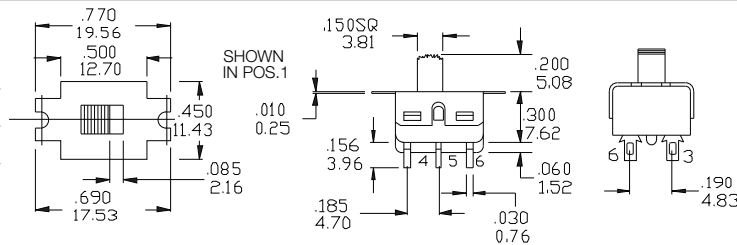
FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
5	ON	NONE	(ON)
2	ON	OFF	ON
TERM.	2-1	OPEN	2-3



DPDT TYPE 2105S1M1QE2



FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
2	ON	OFF	ON
TERM.	2-1	OPEN	2-3

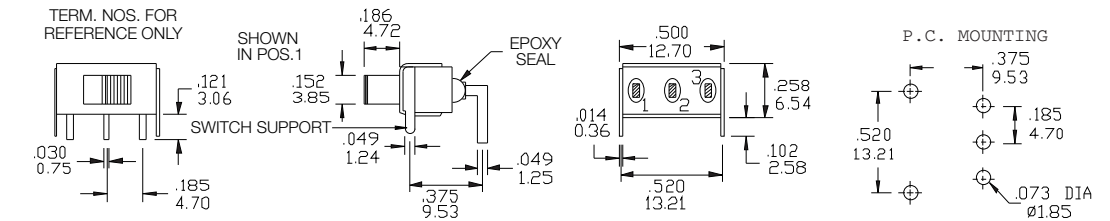


SPDT TYPE 1105S1M6RE2



M6

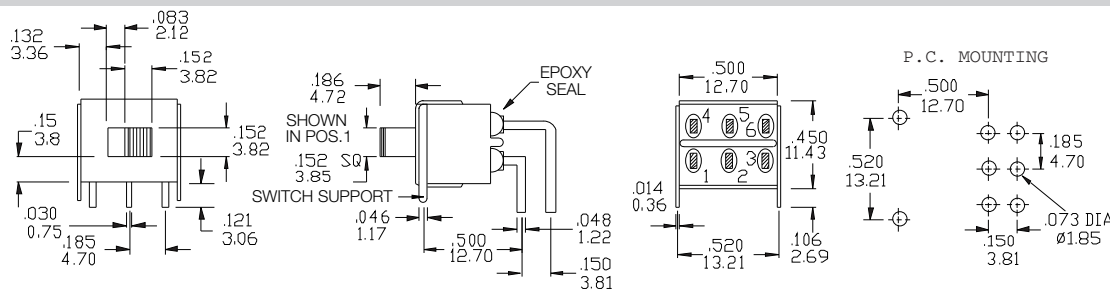
TERMINATION OPTIONS



DPDT TYPE 2105S1M6RE2



M6

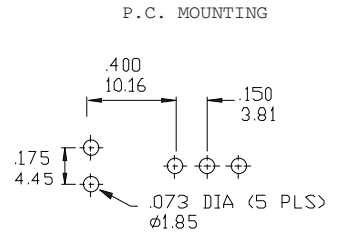
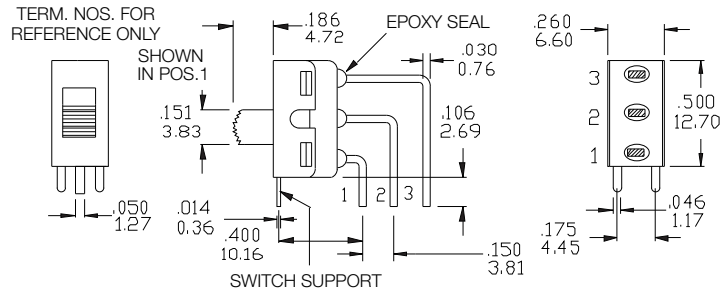


SPDT TYPE 1105S1M7QE2

TERMINATION OPTIONS



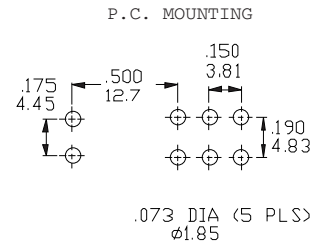
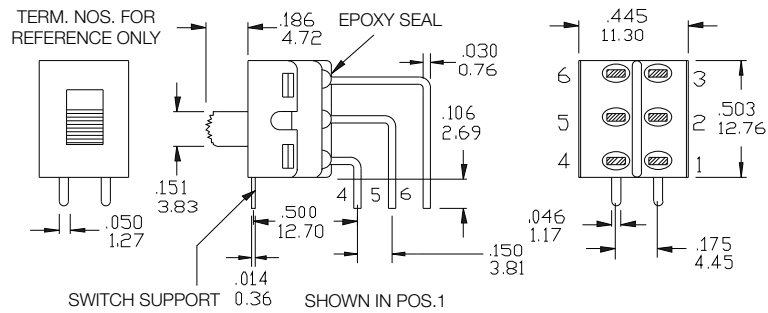
M7



DPDT TYPE 2105S1M7QE2



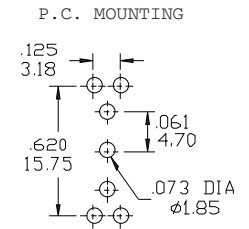
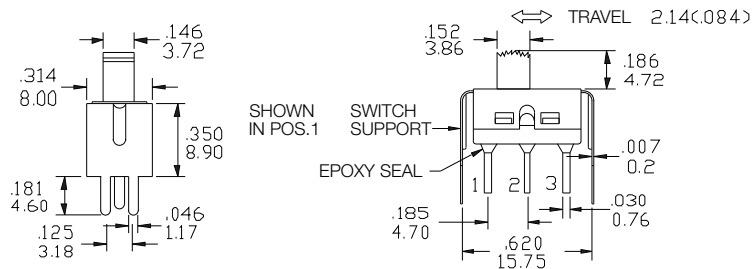
M7



SPDT TYPE 1105S1VS2QE2



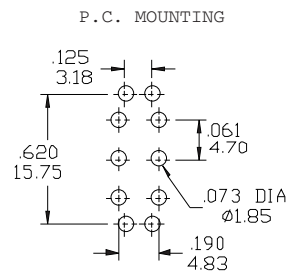
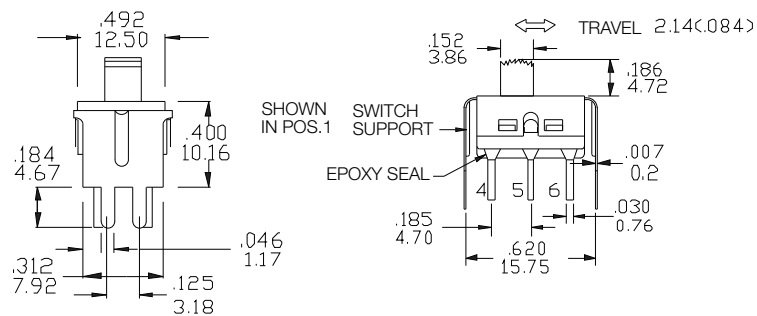
VS-2



DPDT TYPE 2105S1VS2RE2

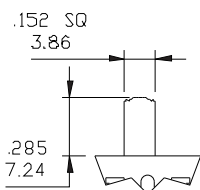
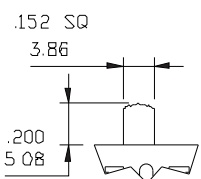


VS-2

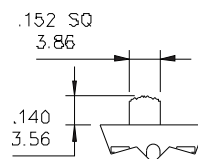
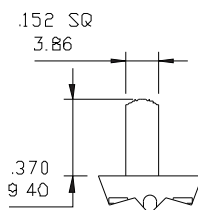


ACTUATOR OPTIONS

S1 (STD.)



S2 S3



S4

ACTUATOR

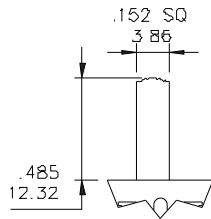
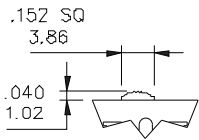
NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

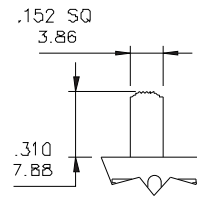
REDUCE ACTUATOR HEIGHT WITH 0,36MM. (0,014) WHEN USING M6 OR M7 TERMINATION OPTION

ACTUATOR OPTIONS

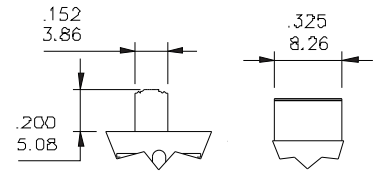
S5 (FOR DP ONLY)



S6



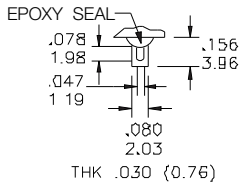
S7



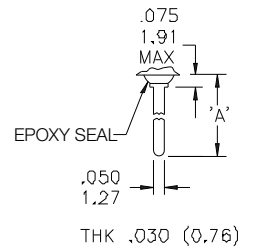
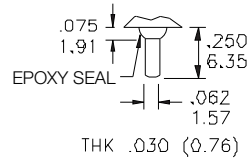
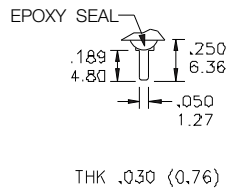
REDUCE ACTUATOR HEIGHT WITH 0,36MM. (0,014) WHEN USING M6 OR M7 TERMINATION OPTION

TERMINATION OPTIONS

M1 (STD.)



M2 M3 QUICK CONTACT



OPTION	
DEM 219 CODE	
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.425(10.80)

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
 Centre contacts: copper alloy silver plated
 Terminals : copper alloy silver plated

Rating : 5A@125VAC or 28VDC 2A@250VAC

R

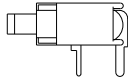
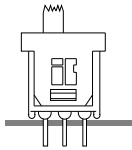
End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4Vamax.@20VAC or DC max.

HOW TO ORDER SEE PAGE 1

SPECIFICATIONS:

Contact rating: see below or page 1
 Contact resistance: 10mΩ max. initial @ 2-4VDC, 100mA for both silver and gold plated contacts
 Electrical life: 30.000 actuations at full load.
 Insulation resistance: 1.500MΩ min.
 Dielectric strengths: 1.500V RMS @ sea level
 Operation temperature: -30 °C to 85 °C






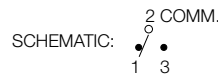
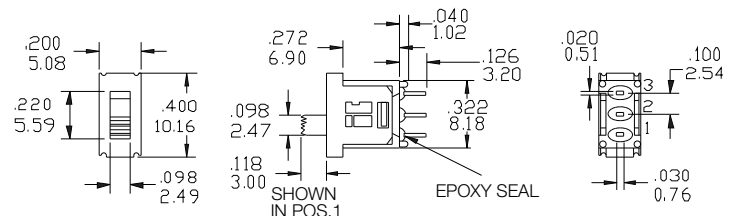
MATERIALS:

Slide handel: nylon (UL 94V-0)
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Contact material: see below or page 1

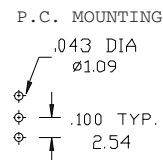
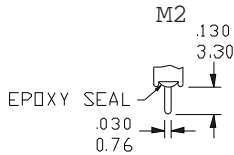
SPDT TYPE 11A5M2RE



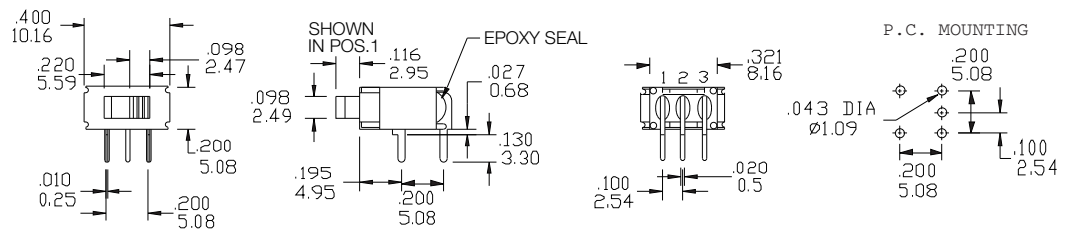
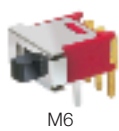
FUNCTION	SWITCH POSITION		
			
1	ON	NONE	ON
2	ON	OFF	ON
TERM.	2-1	OPEN	2-3



TERMINATION OPTIONS



SPDT TYPE 11A5M6RE

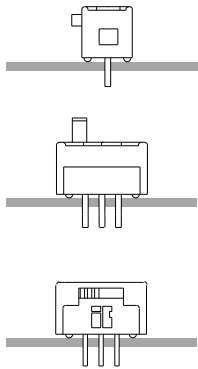


CONTACT MATERIAL OPTIONS

Q (std.)
 End contacts : coin silver, silver plated
 Centre contacts: copper alloy silver plated
 Terminals : copper alloy silver plated
Rating : 3A@125VAC or 28VDC 1A@250VAC

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate
Rating : 0,4VAmx.@20VAC or DC max.

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see below or page 1
 Initial contact resistance: 10mΩ max. for silver, 50mΩ max. for gold
 Mechanical life: 20,000 actuations
 Insulation resistance: 1,500MΩ min.
 Dielectric strengths: 1,000V RMS min. between contacts
 2,000V RMS min between neutral point and contacts and between poles
 Operation temperature: -40 °C to 85 °C

MATERIALS

Slide handel: nylon (UL 94V-0)
 Housing: POU (UL 94H-B)
 Case: PBT (polyester) (UL 94V-0)
 Contact material: see below or page 1

SPDT TYPE 1106S1M1Q / TYPE 1106S2M1Q / TYPE 1106S3M3Q



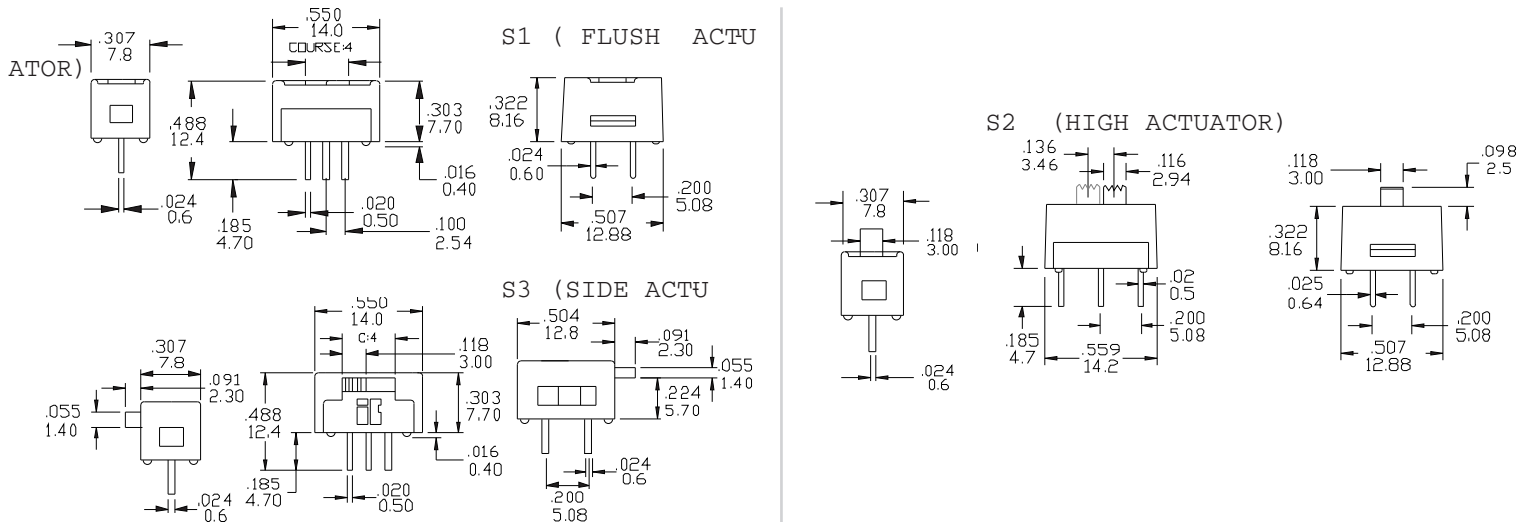
FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
TERM.	2-1	OPEN	2-3

DPDT TYPE 2106S1M4Q / TYPE 2106S2M4Q / TYPE 2106S3M2Q



FUNCTION	SWITCH POSITION		
	1	2	3
1	ON	NONE	ON
TERM.	2-1,	OPEN	2-3,

ACTUATOR OPTIONS



TERMINATIONS OPTIONS

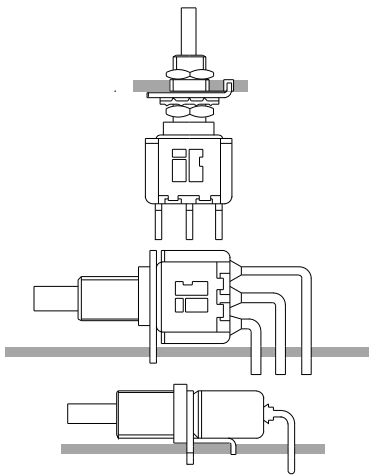


CONTACT MATERIAL OPTIONS

Q (std.)
 End contacts : copper alloy silver plated
 Centre contacts: copper alloy silver plated
 Terminals : copper alloy silver plated
 Rating : 2A@250VAC

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts: copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate
 Rating : 100mA@30VDC

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 45
 Electrical life: 50,000 make and break cycles at full load
 Contact resistance: 10mΩ max. initial @ 2-4VDC 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strengths: 1,500V RMS @ sea level
 Operation temperature: -30 °C to 85 °C
 Cap installation force: 45N max. permissible

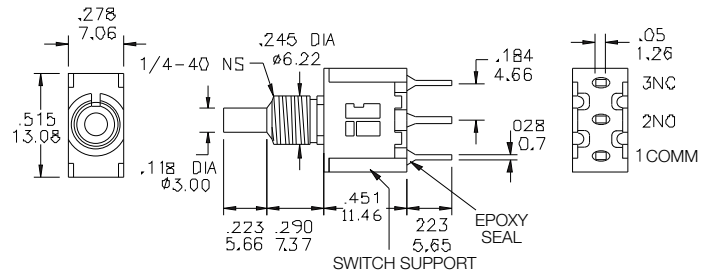
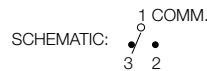
MATERIALS:

Plunger: glass filled nylon or polyester (UL 94V-0)
 Bushing: brass, nickel plated
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Cap and frame: nylon (UL 94V-0)
 Mounting bracket: stainless steel
 Switch support: brass, tin plated

SPDT TYPE 1507P1B10M2RE



FUNCTION	SWITCH POSITION	
5	ON	MOM
TERM.	1-3	1-2

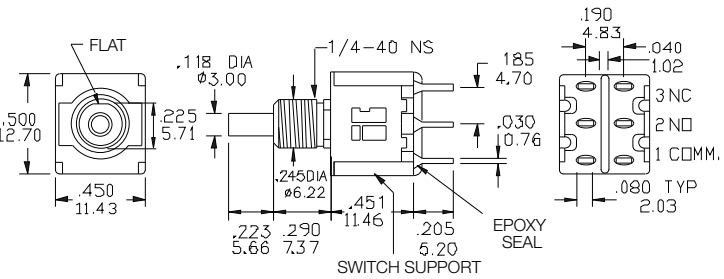
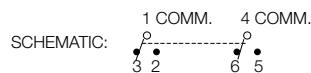


DPDT TYPE 2507P1B10M1RE



FUNCTION	SWITCH POSITION	
5	ON	MOM
TERM.	1-3,	1-2,

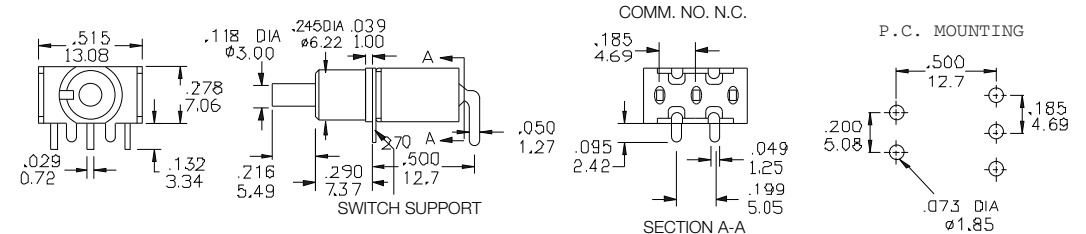
NOTE (FOR DPDT TYPES):
 POLES MAY NOT CHANGE OVER SIMULTANEOUSLY



SPDT TYPE 1507P1B20M6QE



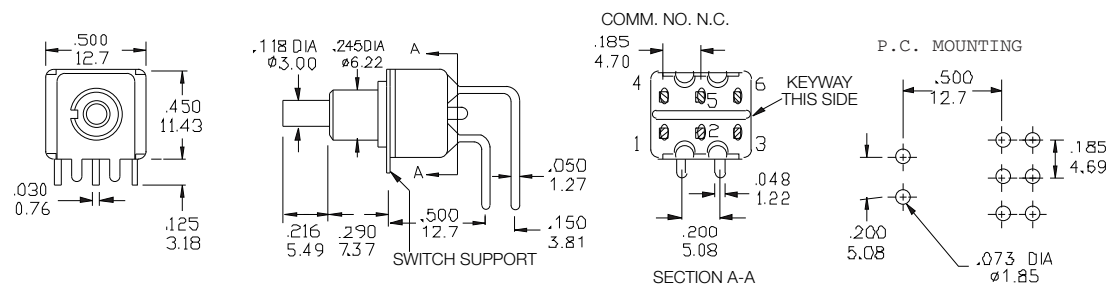
M6

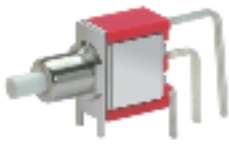
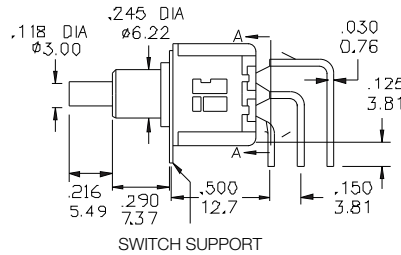
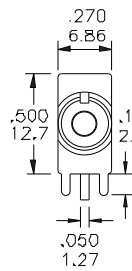
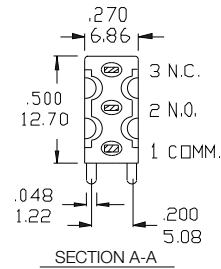
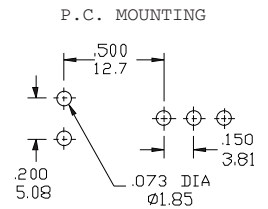
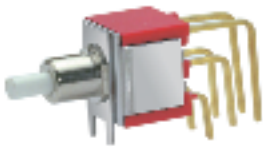
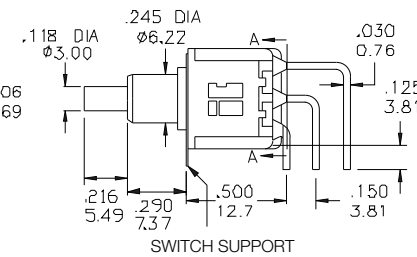
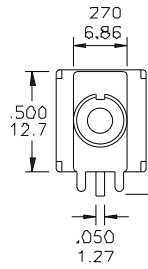
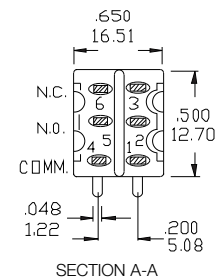
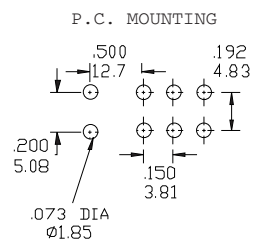


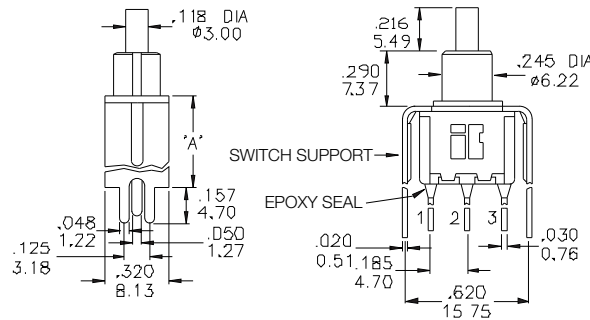
DPDT TYPE 2507P1B20M6RE



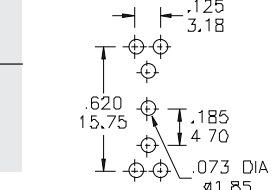
M6

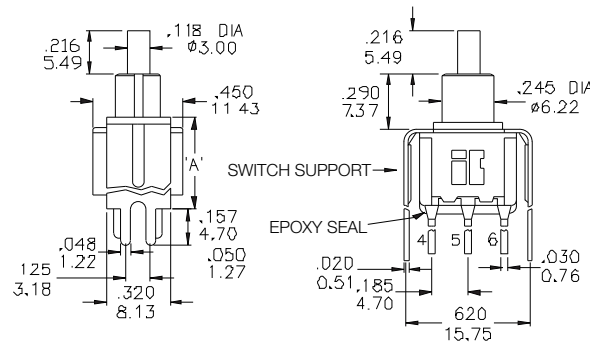


SPDT TYPE 1507P1B20M7QE
TERMINATION OPTIONS

M7

SWITCH SUPPORT

SECTION A-A

P.C. MOUNTING
DPDT TYPE 2507P1B20M7RE

M7

SWITCH SUPPORT

SECTION A-A

P.C. MOUNTING
SPDT TYPE 1507P1B20VS2RE

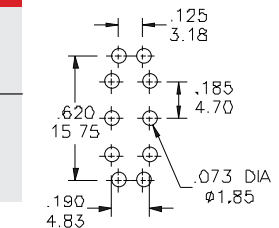
VS2-VS3

SWITCH SUPPORT
EPOXY SEAL

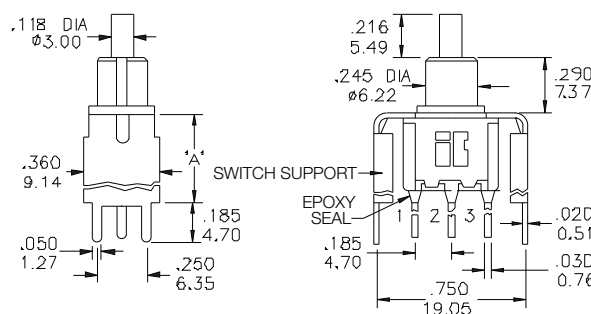
OPTION	
DIM. 2A2 CODE	
VS2	.460 11.68
VS3	.630 16.00

P.C. MOUNTING

DPDT TYPE 2507P1B20VS3RE

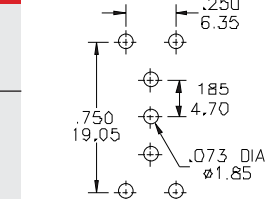
VS2-VS3

SWITCH SUPPORT
EPOXY SEAL

OPTION	
DIM. 2A2 CODE	
VS2	.460 11.68
VS3	.630 16.00

P.C. MOUNTING

SPDT TYPE 1507P1B20VS5QE

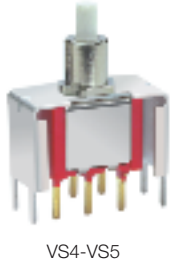
VS4-VS5

SWITCH SUPPORT
EPOXY SEAL

OPTION	
DIM. 2A2 CODE	
VS4	.460 11.68
VS5	.630 16.00

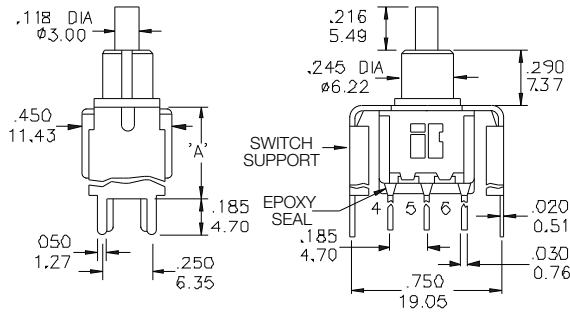
P.C. MOUNTING


DPDT TYPE 2507P1B20VS4RE

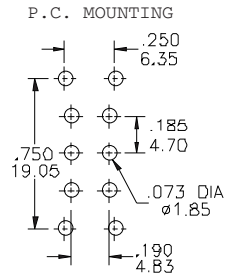
TERMINATION OPTIONS



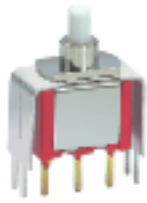
VS4-VS5



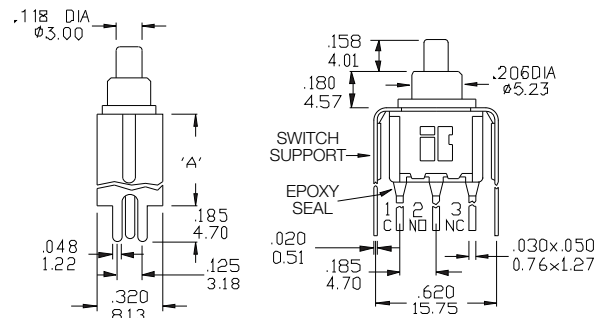
OPTION	
DIM. 2A2	
CODE	
VS4	.460 11.68
VS5	.630 16.00



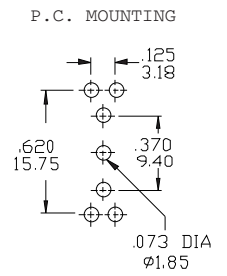
SPDT TYPE 1507P2B6VS6RE



VS6-VS7



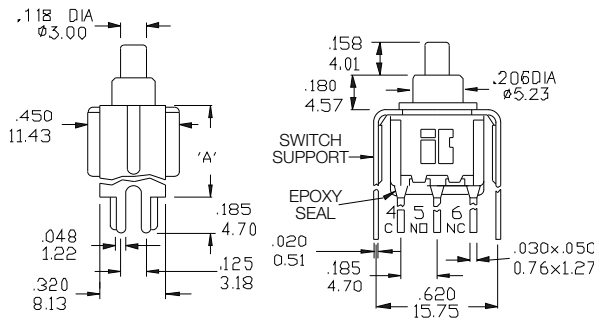
OPTION	
DIM. 2A2	
CODE	
VS6	.460 11.68
VS7	.630 16.00



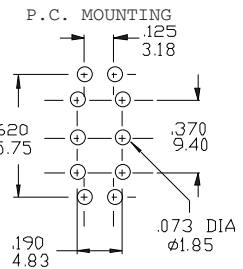
DPDT TYPE 2507P2B6VS6RE



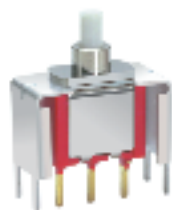
VS6-VS7



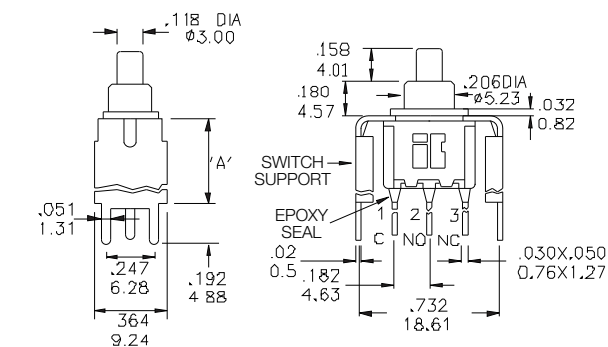
OPTION	
DIM. 2A2	
CODE	
VS6	.460 11.68
VS7	.630 16.00



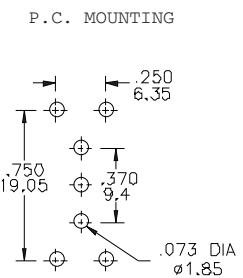
SPDT TYPE 1507P2B6VS8RE



VS8-VS9



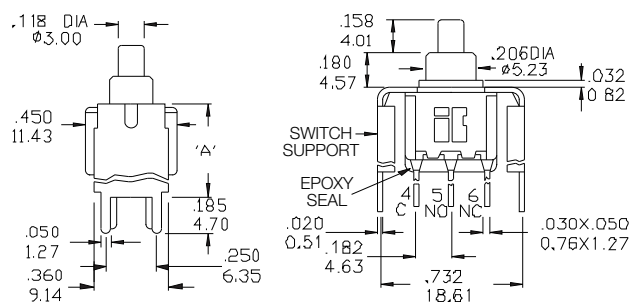
OPTION	
DIM. 2A2	
CODE	
VS8	.460 11.68
VS9	.630 16.00



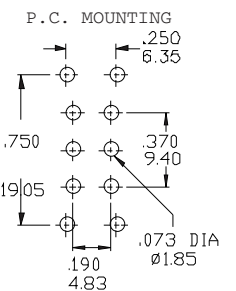
DPDT TYPE 2507P2B6VS8RE



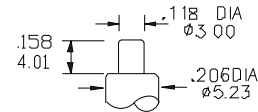
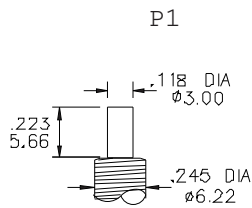
VS8-VS9



OPTION	
DIM. 2A2	
CODE	
VS8	.460 11.68
VS9	.630 16.00



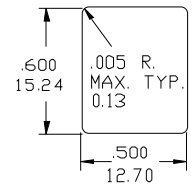
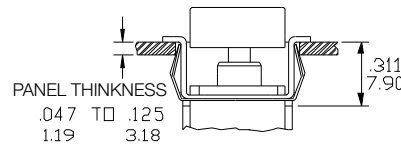
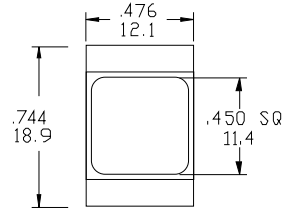
ACTUATOR OPTIONS



(FOR TERMINATION OPTIONS VS6 - VS9 ONLY)

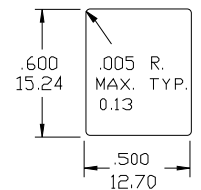
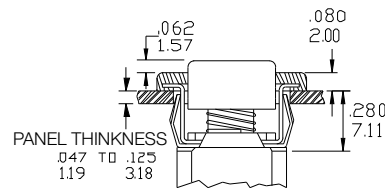
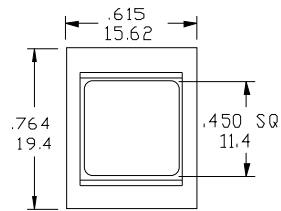
TYPE 1507AP1M1QE1

ACTUATOR (PLUNGER) OPTIONS



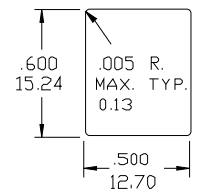
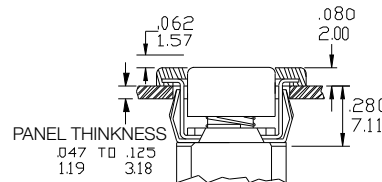
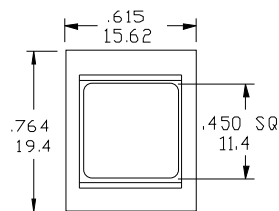
PARTNUMBER CAP: 700-C3

TYPE 1507AP2M1QE12



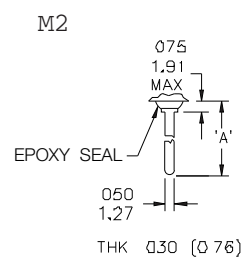
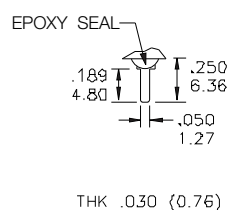
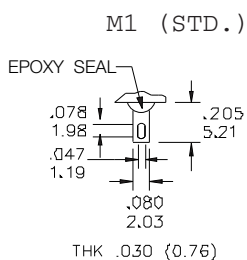
PARTNUMBER FRAME: 700-FR1 PARTNUMBER CAP: 700-C3

TYPE 1507AP3M1QE12



PARTNUMBER FRAME: 700-FR1 PARTNUMBER CAP: 700-C3

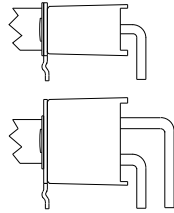
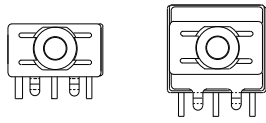
TERMINATION OPTIONS



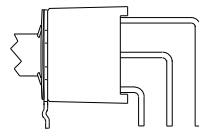
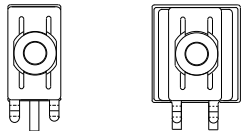
OPTION	
DIM. CAP. CODE	
M5-1	.750(19.05)
M5-2	.964(24.48)
M5-3	.425(10.80)

SNAP-IN TERMINATION OPTIONS

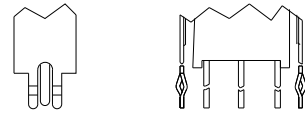
M61 SNAP-IN



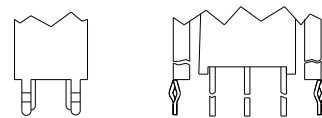
M71 SNAP-IN



VS21, VS3 SNAP-IN



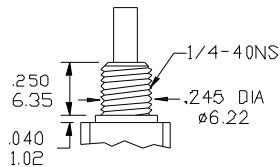
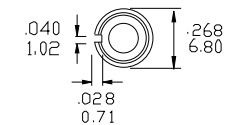
VS41, VS5 SNAP-IN



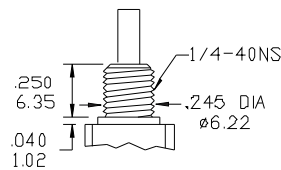
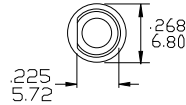
SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

BUSHING OPTIONS

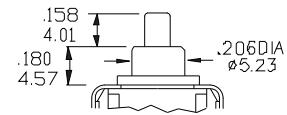
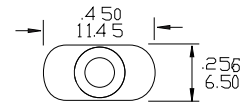
B10 (STD.)
B20 NON-THD



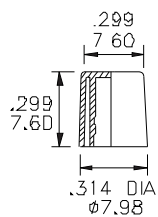
B11
B21 NON-THD



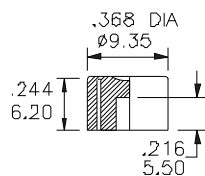
B6 NON-THD
(FOR TERMINATION OPTIONS VS6 - VS9 ONLY)



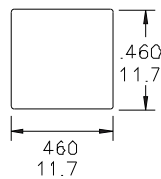
CAPS



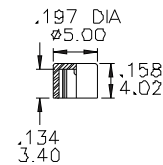
(700-C1)



(700-C2)



(700-C3)



ACTUATOR

NO.	COLOR
1	WHITE
2	BLACK (STD)
3	RED

For other colors

CONTACT MATERIAL OPTIONS

Q (std.)

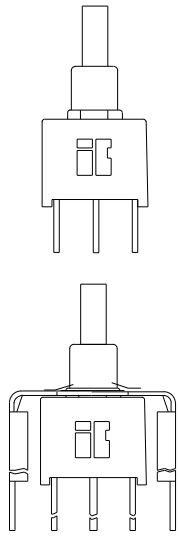
End contacts : coin silver, silver plated
Centre contacts : copper alloy silver plated
Terminals : copper alloy silver plated

Rating : 1 A@125VAC or 28VDC

R

End contacts : copper alloy, with gold plate over nickel plate
Centre contacts : copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate
Rating : 0,4 VA @ 20VAC or DC max

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 48
 Electrical life: 50,000 make-and-break cycles at full load
 Contact resistance: 50mΩ max. initial @ 2-4VDC 100mA for both silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1,500V RMS min. @ sea level
 Operation temperature: -30 °C to 75 °C
 Cap installation force: 45 N, max. permissible
 Internal o-ring seal standard with all actuators

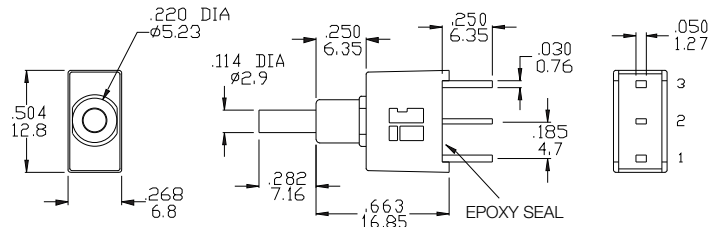
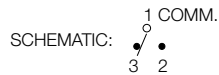
MATERIALS:

Plunger: glass filled nylon or polyester (UL 94V-0)
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Switch support retainer: stainless steel
 Contact materials: see page 1 or 48

SPDT TYPE 15S7P1B4M2RE



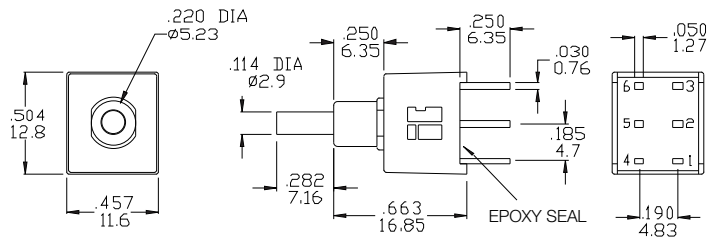
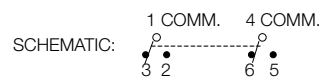
FUNCTION	SWITCH	POSITION
5	ON	MOM
TERM.	1-3	1-2



DPDT TYPE 25S7P1B4M2RE

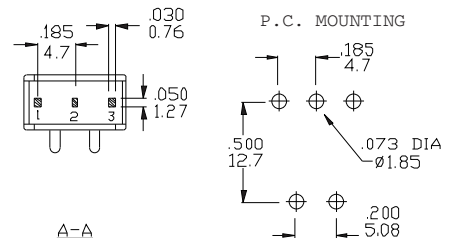
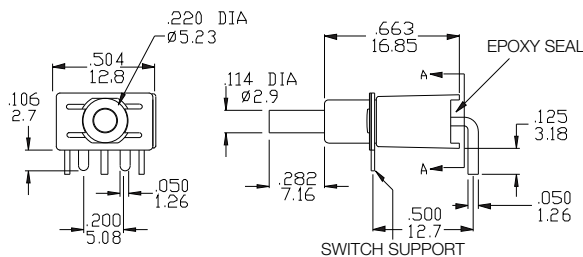
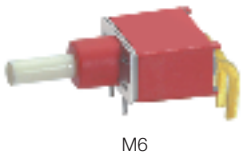


FUNCTION	SWITCH	POSITION
5	ON	MOM
TERM. CONN.	1-3, 4-6	1-2, 4-5

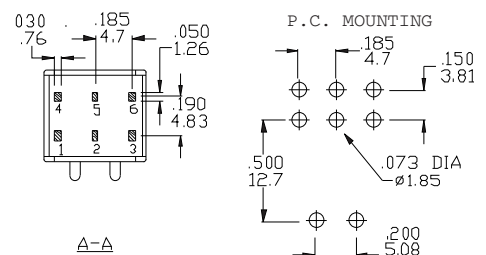
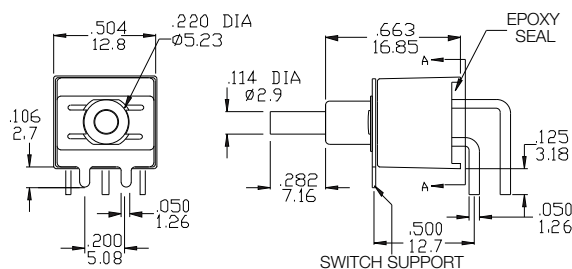
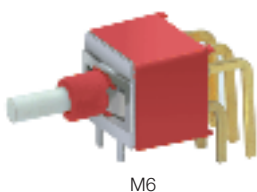


SPDT TYPE 15S7P1B4M6RE

TERMINATION OPTIONS

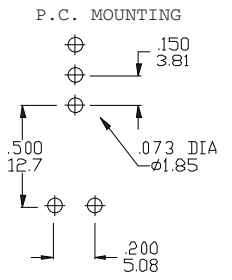
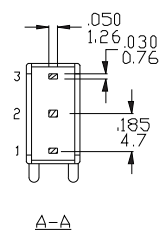
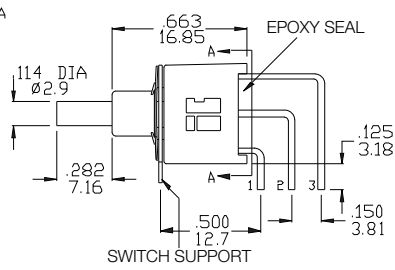
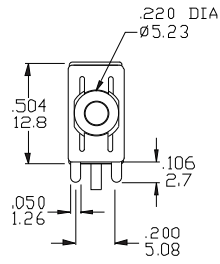
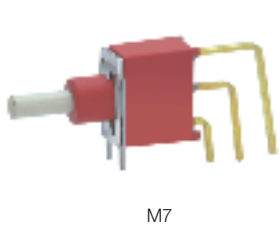


DPDT TYPE 25S7P1B4M6RE

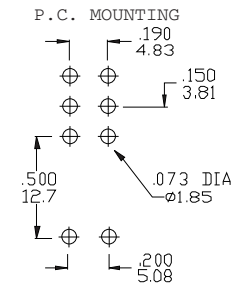
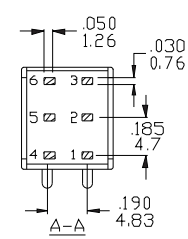
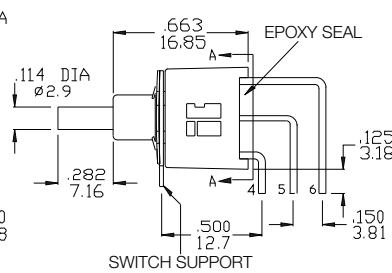
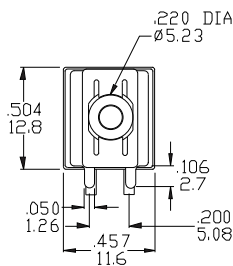
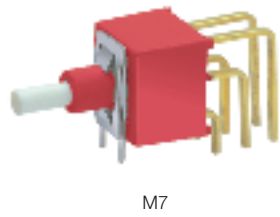


SPDT TYPE 15S7P1B4M7RE

TERMINATION OPTIONS



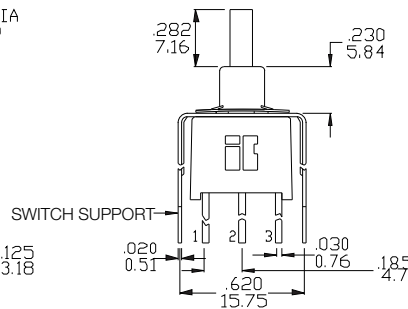
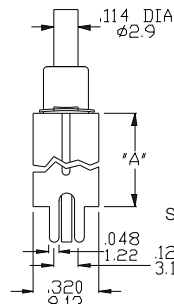
DPDT TYPE 25S7P1B4M7RE



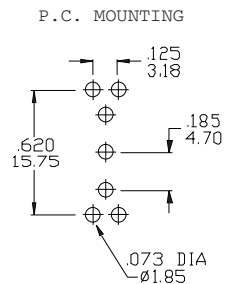
SPDT TYPE 15S7P1B4VS2RE



VS2-VS3



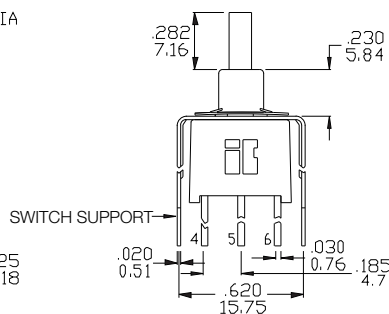
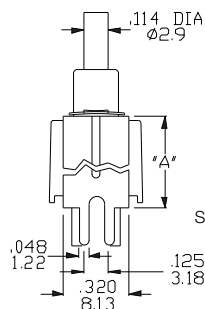
OPTION	
DIM. 2A2 CODE	
VS2	.460 11.68
VS3	.630 16.00



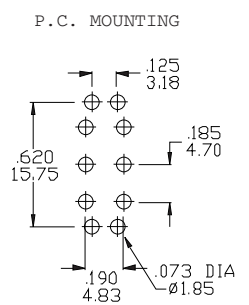
DPDT TYPE 25S7P1B4VS2RE



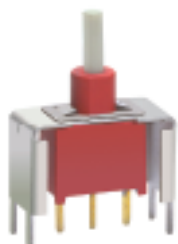
VS2-VS3



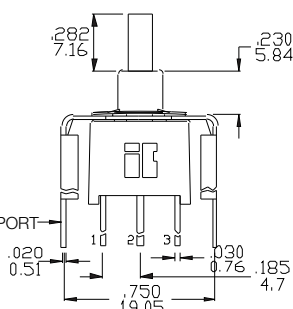
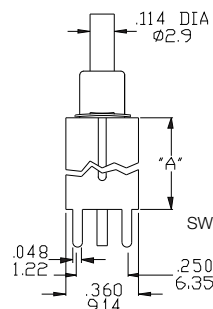
OPTION	
DIM. 2A2 CODE	
VS2	.460 11.68
VS3	.630 16.00



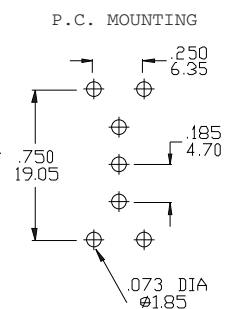
SPDT TYPE 15S7P1B4VS4RE



VS4-VS5



OPTION	
DIM. 2A2 CODE	
VS4	.460 11.68
VS5	.630 16.00

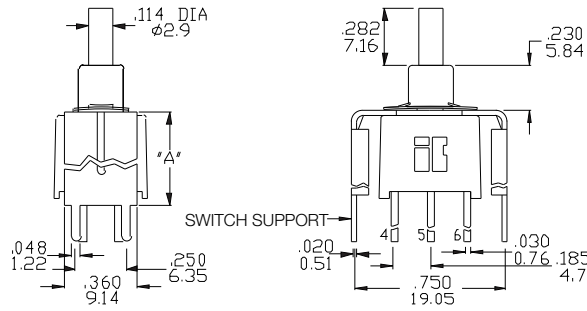


DPDT TYPE 25S7P1B4VS4RE

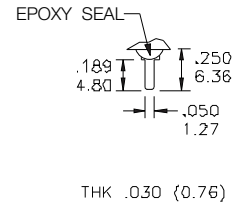
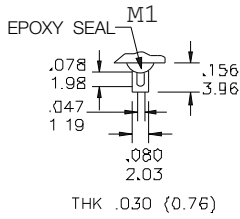
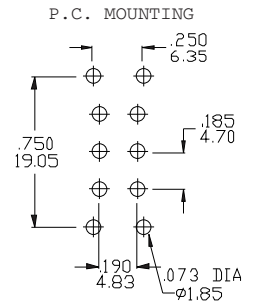
TERMINATION OPTIONS



VS4-VS5

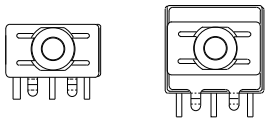


OPTION	
DIM. 229 CODE	
VS4	.460 11.68
VS5	.630 16.00

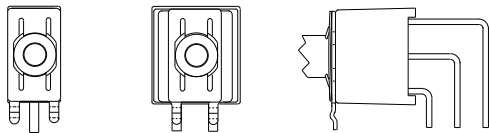


SNAP-IN TERMINATION OPTIONS

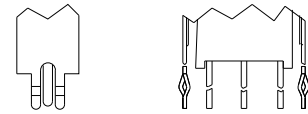
M61 SNAP-IN



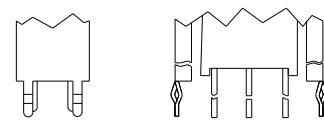
M71 SNAP-IN



VS21, VS3 SNAP-IN

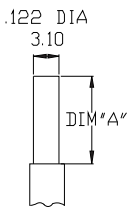


VS41, VS5 SNAP-IN

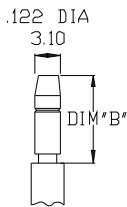


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

ACTUATOR (PLUNGER) OPTIONS



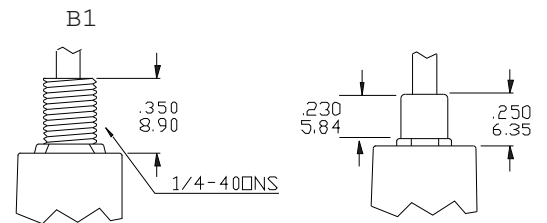
OPTION	
DIM. 229 CODE	
P1	.282(7.16)
P2	.192(4.88)



OPTION	
DIM. 229 CODE	

FOR CAPS SEE PAGE 45

BUSHING OPTIONS



CONTACT MATERIAL OPTIONS

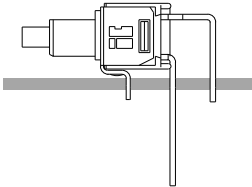
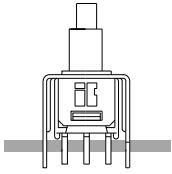
R
End contacts : copper alloy, with gold plate over nickel plate
Centre contacts : copper alloy, with gold plate over nickel plate
Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VAmax.@20VAC or DC max.

G
End contacts : coin silver, with gold plate over nickel plate
Centre contacts : copper alloy with gold plate over nickel plate
Terminals : copper alloy with gold plate over nickel plate

Rating : 1A@125VAC or 28VDC

HOW TO ORDER SEE PAGE 1



SPECIFICATION:

Contact rating: see page 1 or 51
 Electrical life: 50,000 make-and-break cycles at full load
 Contact resistance: 20mΩ max. initial @ 2-4V(DC), 100mA for both coin silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1,500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C

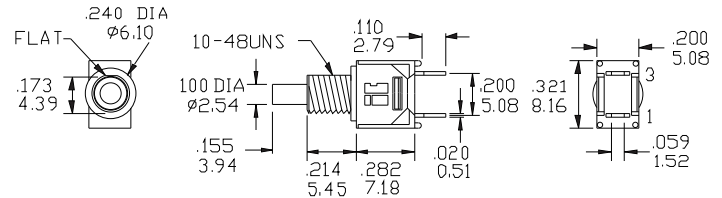
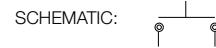
MATERIALS:

Plunger: thermoplastic polyester (UL 94V-0)
 Bushing: brass, nickel plated
 Housing: stainless steel
 Case: diallyl phthalate (DAP) (UL 94V-0)
 Terminal seal: epoxy
 Cap and frame: nylon (UL 94V-0)
 Mounting bracket: stainless steel
 Switch support: brass, tin plated

SPST TYPE 1908P1B5M1RE



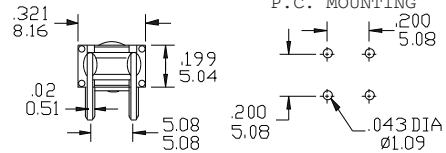
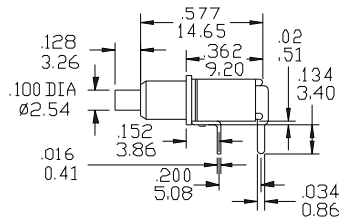
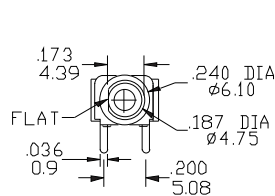
FUNCTION	SWITCH POSITION	
9	OFF	MOM
TERM. CONN.	OPEN	1-3



SPST TYPE 1908P1B6M6RE



M6

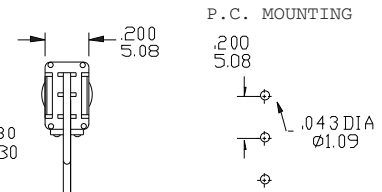
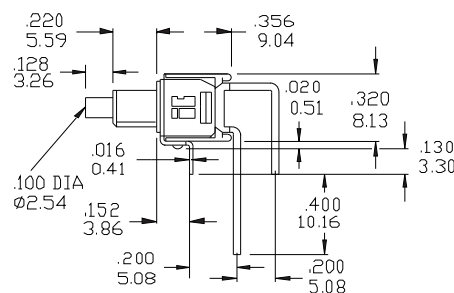
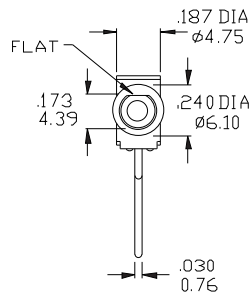


TERMINATION OPTIONS

SPST TYPE 1908P1B6M7RE



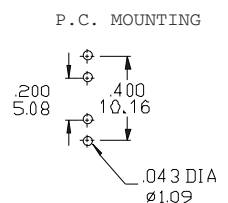
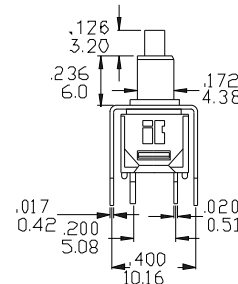
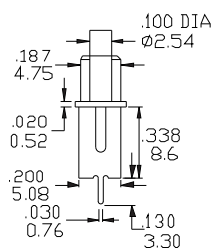
M7



SPST TYPE 1908P1B6VS2RE



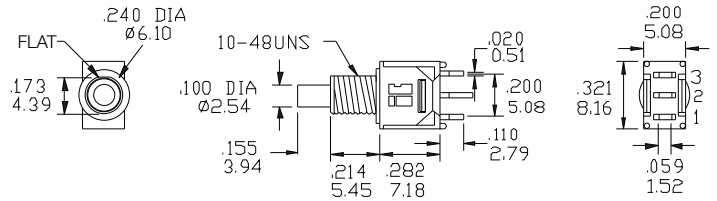
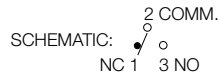
VS2



SPDT TYPE 1508P1B5M1QE



FUNCTION	SWITCH POSITION	
5	ON	MOM
TERM. CONN.	2-1	2-3

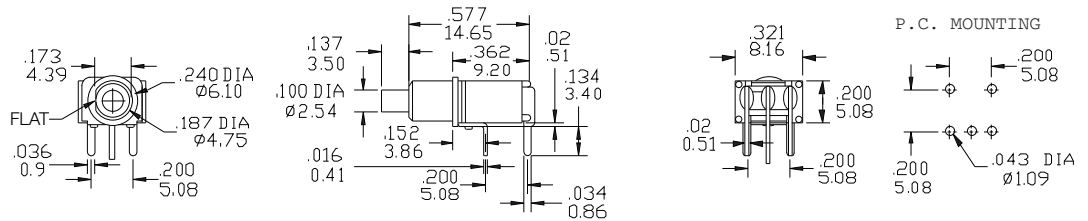


SPDT TYPE 1508P1B6M6QE

TERMINATION OPTIONS



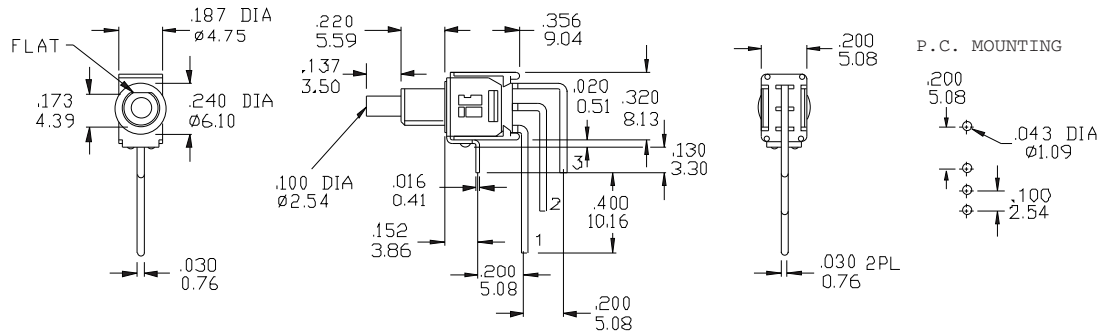
M6



SPDT TYPE 1508P1B6M7RE



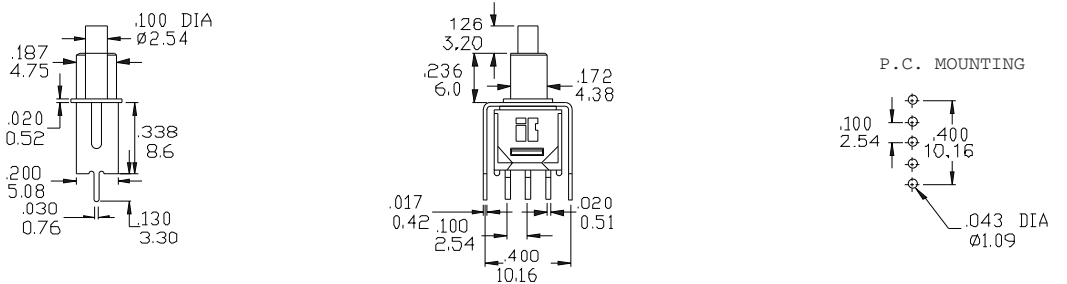
M7



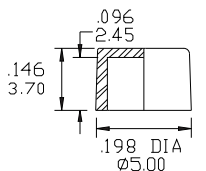
SPDT TYPE 1508P1B6VS2QE



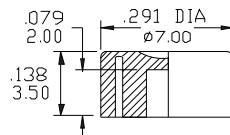
VS2



CAPS



(800-C1)



ACTUATOR

NO.	COLOR	C2)
1	WHITE	
2	BLACK (STD)	
3	RED	

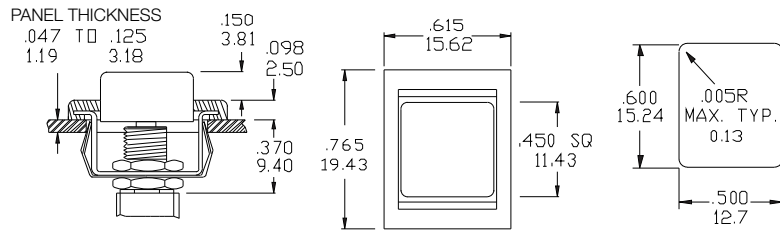
For other colors

TYPE 1908OP1M1Q22

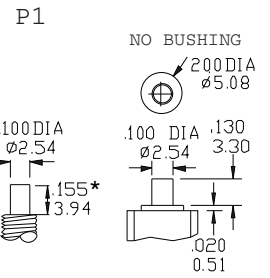
ACTUATOR OPTIONS



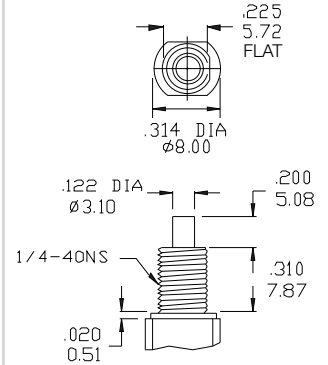
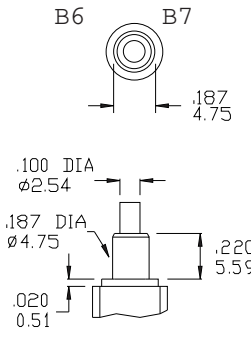
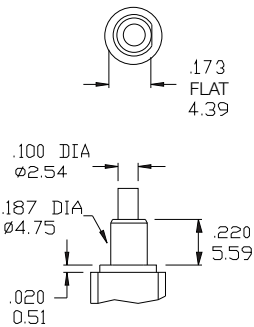
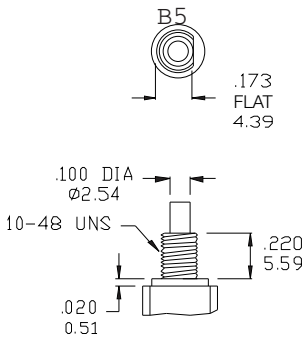
OP1



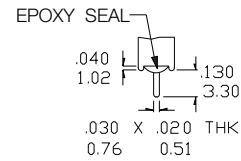
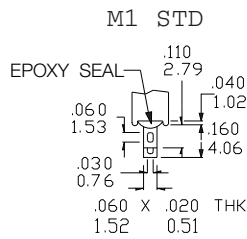
PARTNUMBER FRAME: 300-FR1 PARTNUMBER CAP: 700-C3



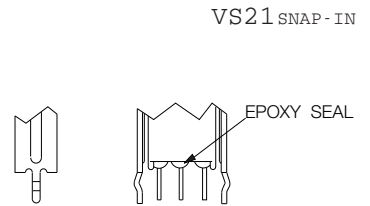
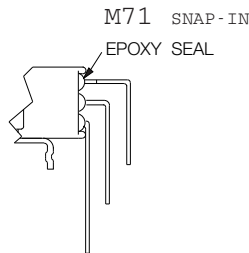
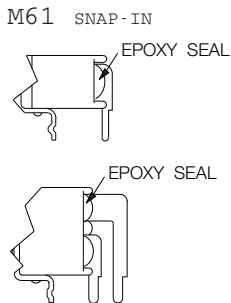
BUSHING OPTIONS



TERMINATION OPTIONS



SNAP-IN TERMINATION OPTIONS



SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

CONTACT MATERIAL OPTIONS

Q (std.)

End contacts : coin silver, silver plated
 Centre contacts : copper alloy silver plated
 Terminals : copper alloy silver plated

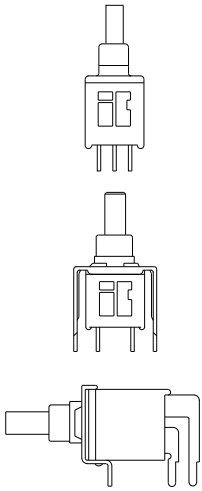
Rating : 1A@125VAC or 28VDC

R

End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VA@20VAC or DC max

HOW TO ORDER SEE PAGE 1



SPECIFICATIONS:

Contact rating: see page 1 or 54
 Electrical life: 50,000 make-and-break cycles at full load
 Contact resistance: 20mΩ max. initial @ 2-4VDC, 100mA for both silver and gold plated contacts
 Insulation resistance: 1,000MΩ min.
 Dielectric strength: 1,500V RMS min. @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators

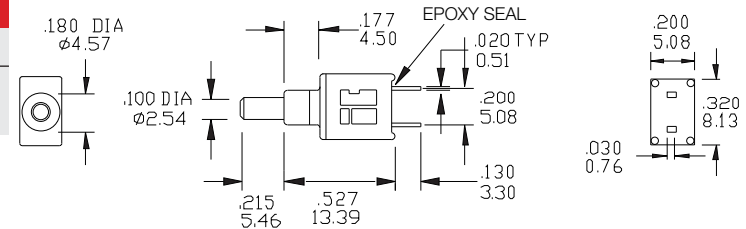
MATERIALS:

Plunger: thermoplastic polyester (UL 94V-0)
 Case & bushing: glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated

SPST TYPE 19S8P1B4M2RE



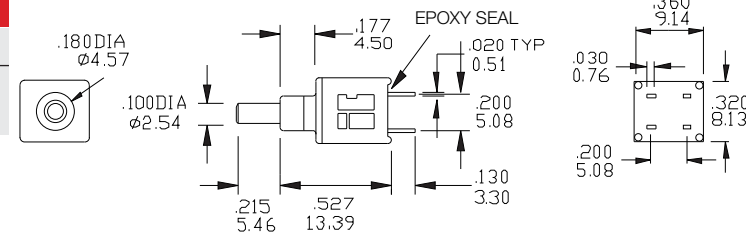
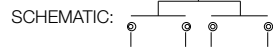
FUNCTION	SWITCH POSITION	
9	OFF	MOM
TERM.	OPEN	1-3



DPST TYPE 29S8P1B4M2RE



FUNCTION	SWITCH POSITION	
9	OFF	MOM
TERM.	OPEN	1-3

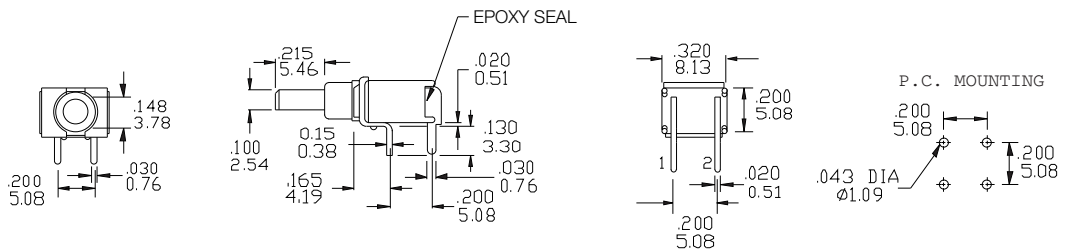


SPST TYPE 19S8P1B4M6RE

TERMINATION OPTIONS



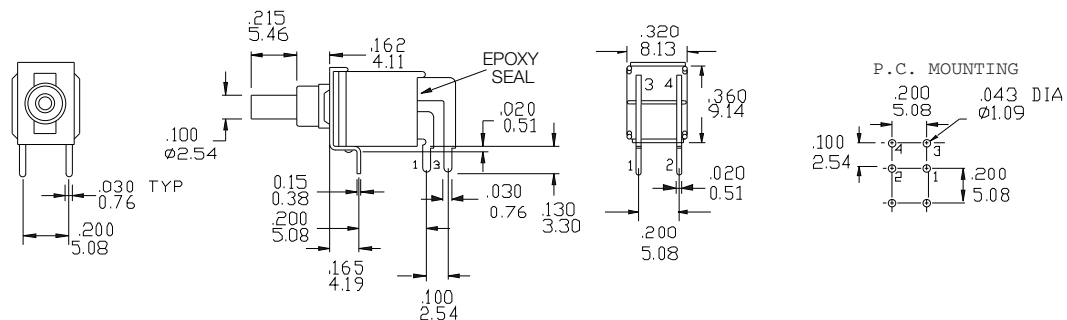
M6

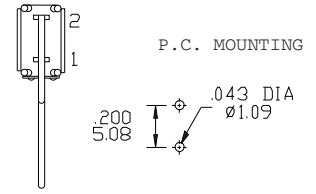
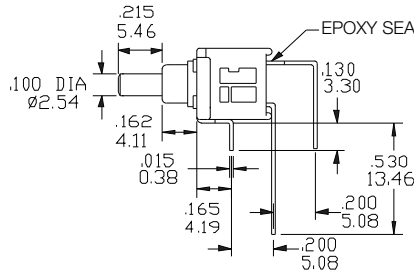
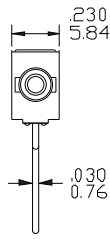
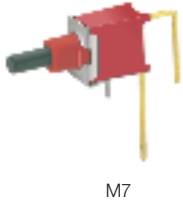
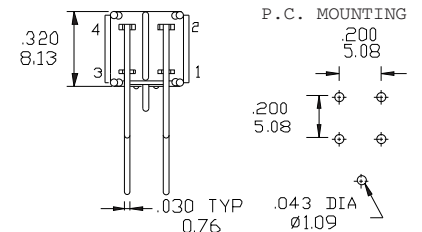
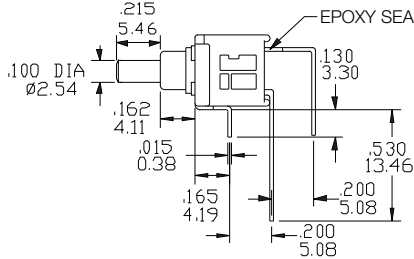
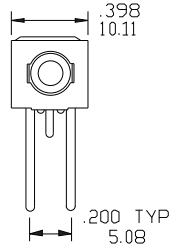
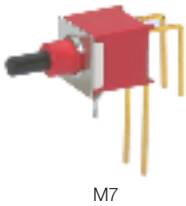
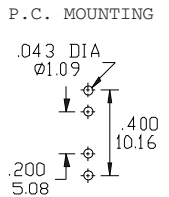
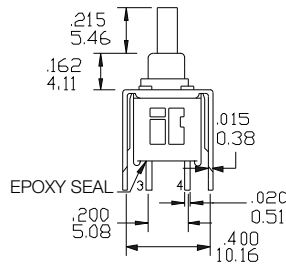
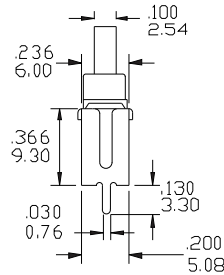
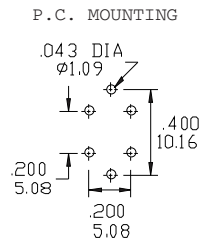
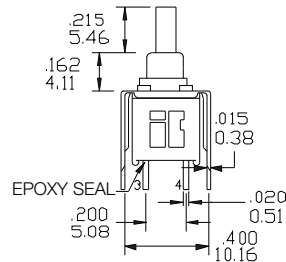
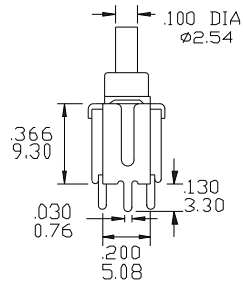
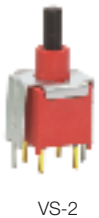


DPST TYPE 29S8P1B4M6RE




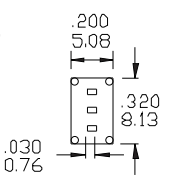
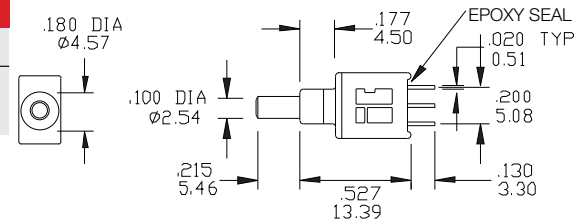
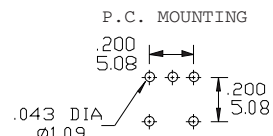
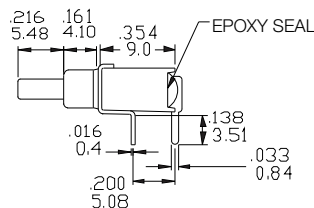
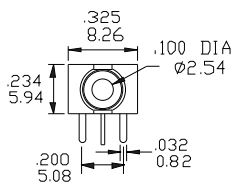
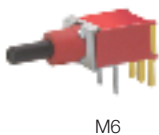
M6

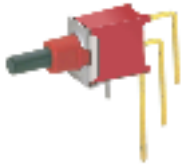
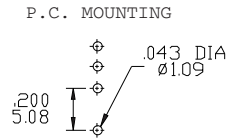
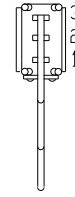
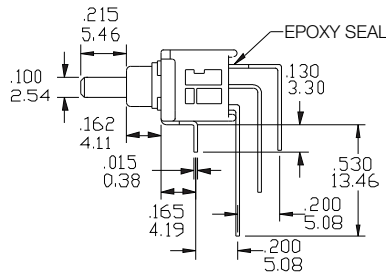
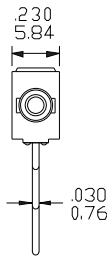


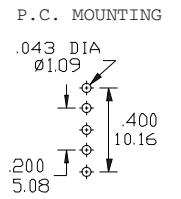
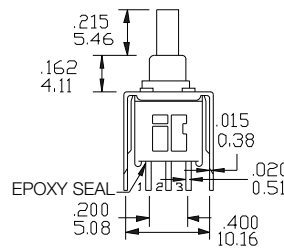
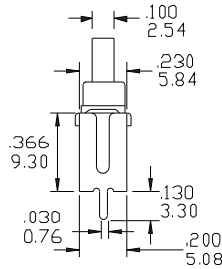
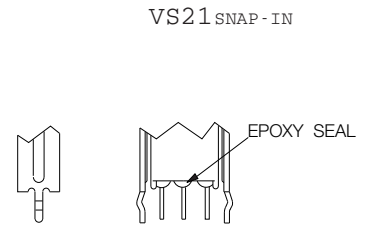
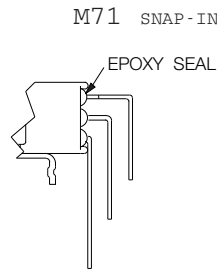
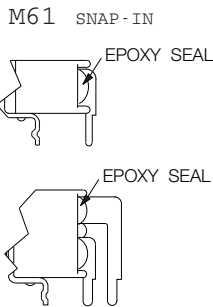
SPST TYPE 19S8P1M7RE
TERMINATION OPTIONS

DPST TYPE 29S8P1M7RE

SPST TYPE 19S8P1VS2RE

DPST TYPE 29S8P1VS2RE

SPDT TYPE 15S8P1M2RE


FUNCTION	SWITCH POSITION	
5	ON	MOM
TERM.	2-1	2-3

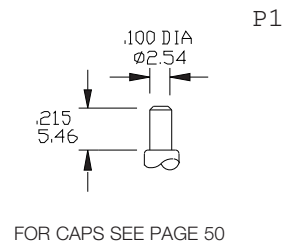
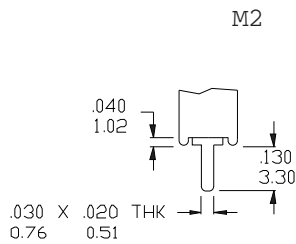
SCHEMATIC:

 2 COMM.
 NC 1 3 NO


SPDT TYPE 15S8P1M6RE


SPDT TYPE 15S8P1M7RE
TERMINATION OPTIONS

M7

SPDT TYPE 15S8P1VS2RE

VS2

SNAP-IN TERMINATION OPTIONS


SAME P.C. MOUNTING AS WITH SWITCH SUPPORTS WITHOUT SNAP-IN

TERMINATION OPTION
PLUNGER OPTION

CONTACT MATERIAL OPTIONS

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4VAm_{ax}.@20VAC or DC max.

G
 End contacts : coin silver, with gold plate over nickel plate
 Centre contacts : copper alloy with gold plate over nickel plate
 Terminals : copper alloy with gold plate over nickel plate

Rating : 1A@125VAC or 28VDC

SPECIFICATIONS :

Contact rating: see below or page 1
 Mechanical & electrical life: 30.000 make-and-break cycles
 Contact resistance: 20mΩ max. typ. initial @ 2-4VDC, 100mA
 Insulation resistance: 1.000MΩ min.
 Dielectric strength: 1.500V RMS @ sea level
 Operating temperature: -30 °C to 85 °C
 Internal o-ring seal standard with all actuators

MATERIALS:

Plunger: thermoplastic polyester (UL 94V-0)
 Case & bushing: glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
 Terminal seal: epoxy
 Switch support: brass, tin plated
 Contact materials: see below or page 1

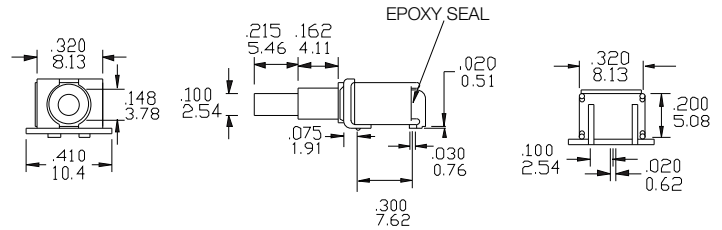
SPST TYPE 19M8P1B4M6RE



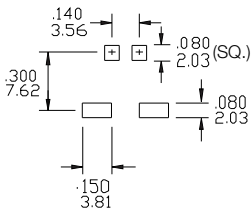
FUNCTION	SWITCH POSITION	
5	ON	MOM
TERM.	2-3	2-1



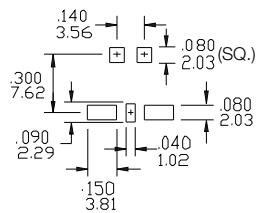
FUNCTION	SWITCH POSITION	
9	OFF	MOM
TERM.	OPEN	3-1



PC MOUNTING



SPST



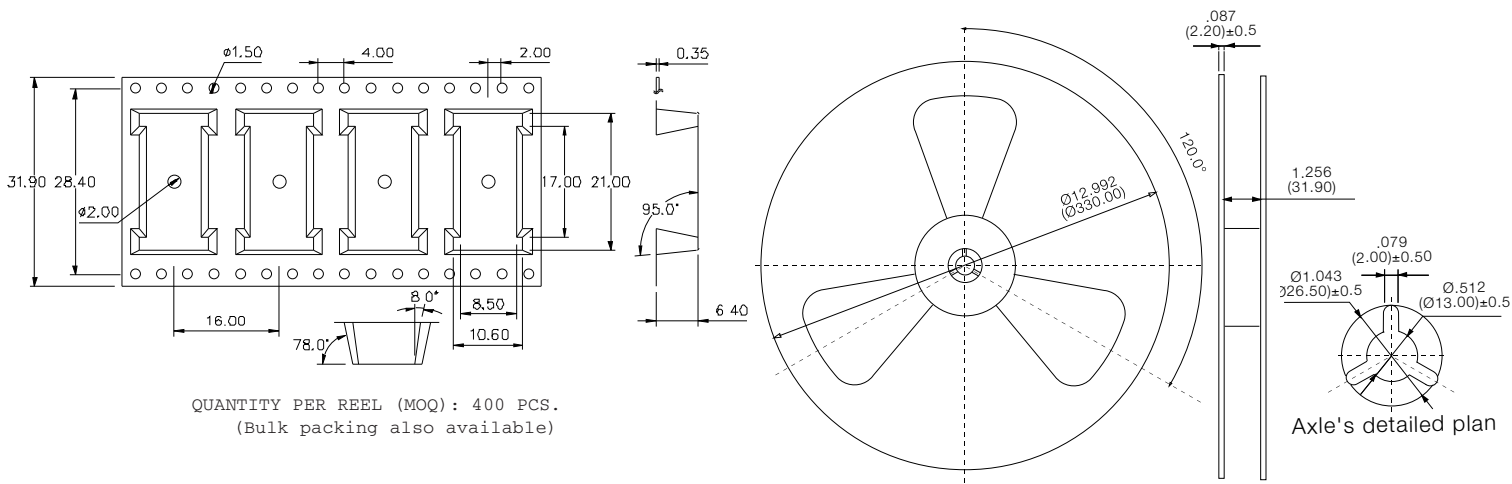
SPDT

CONTACT MATERIAL OPTIONS

R
 End contacts : copper alloy, with gold plate over nickel plate
 Centre contacts : copper alloy, with gold plate over nickel plate
 Terminals : copper alloy, with gold plate over nickel plate

Rating : 0,4 VA max. @ 20VAC or DC max.

TAPE AND REEL DIMENSIONS





SPECIFICATIONS

MECHANICAL

Mechanical life: 2000 operations per switch.
 Operation force: 400gf max. (12 series).
 1000gf max. (10 & 11 series).
 Stroke: 2.0mm.
 Operation temp: -20 °C to 70 °C.
 Storage temp: -40 °C to 85 °C.
 Vibration test: MIL-STD-202F method 201A.
 Frequency: 10-55-10Hz/1 min.
 Directions: X, Y, Z, three mutually perpendicular directions.
 Time: 2 hours each direction.
 High reliability.
 Shock test: MIL-STD-202F method 213B. Condition A.
 Gravity: 50G (peak value), 11 m/sec.
 Direction and times: 6 sides and 3 times in each direction. High reliability.

ELECTRICAL

Electrical life: 2000 operations per switch 24VDC, 25mA.

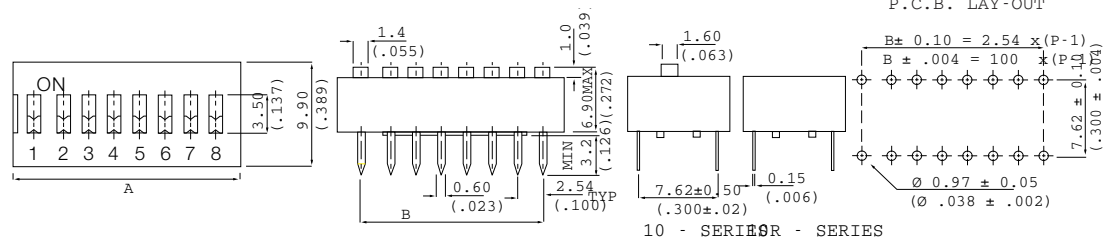
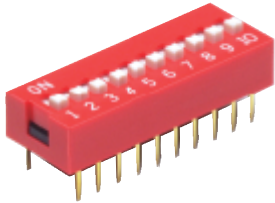
Non-switching rating: 100mA, 50VDC.
 Switching rating: 25mA, 24VDC.
 Contact resistance: 50mΩ max. at initial.
 Insulation resistance: (at 500VDC) 100MΩ min.
 Dielectric strength: 500VAC/1 minute.
 Capacitance: 5pF max.
 Circuit: single pole single throw.
 Marking: special side or top marking optional.

MATERIALS

Base: UL94V-0 PBT thermoplastic, black.
 Cover: UL94V-0 PBT thermoplastic, red, black, blue.
 Actuators: UL94V-0 PBT thermoplastic, white.
 Contact: phosphor bronze with gold plating over nickel.
 Top seal: polyester film.
 Potting material: epoxy.

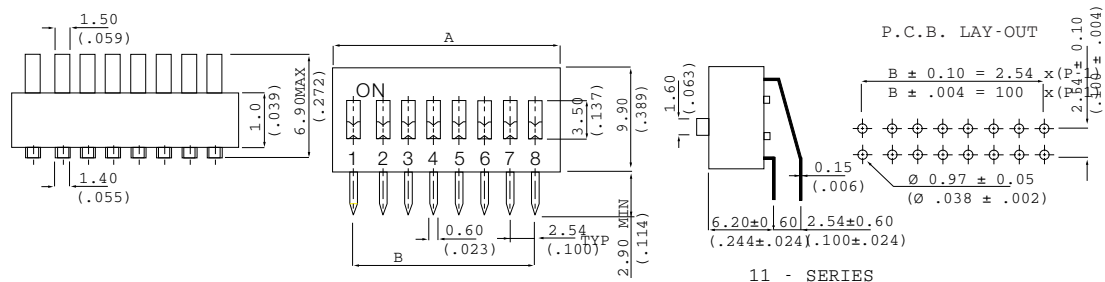
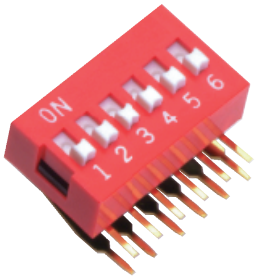
- LOW CONTACT RESISTANCE
- HIGH RELIABILITY
- SELF-CLEANING CONTACTS

MODEL 10



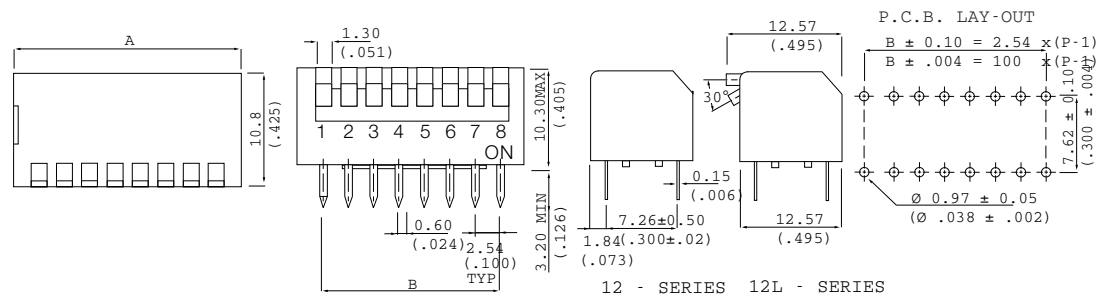
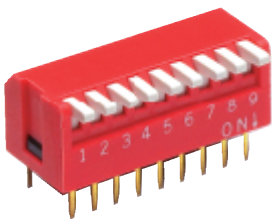
General tolerance - 0,2mm

MODEL 11



General tolerance - 0,2mm

MODEL 12



General tolerance - 0,2mm



SOLDERING AND CLEANING PROCESSES

For best results, please follow these recommendations:

Keep all switch contacts in their "OFF" position for all operations.

Wave soldering: recommended solder temperature at 500 F (260 °C) max. 5 seconds.

Hand soldering: use a soldering iron of 30 Watts or less, controlled at 608 °F (320 °C) approximately 2 seconds while applying solder.

Cleaning process: flux clean using force rinse, high agitation or triple bath cleaning method. Freon TF or TE give excellent results. When vapor methods are used, do not subject the switch to solvents at temperature above 125 °F (51 °C).

Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.

Do not clean the switch body except with top tape sealed type, which can only spray of cleaning method from top s/w.

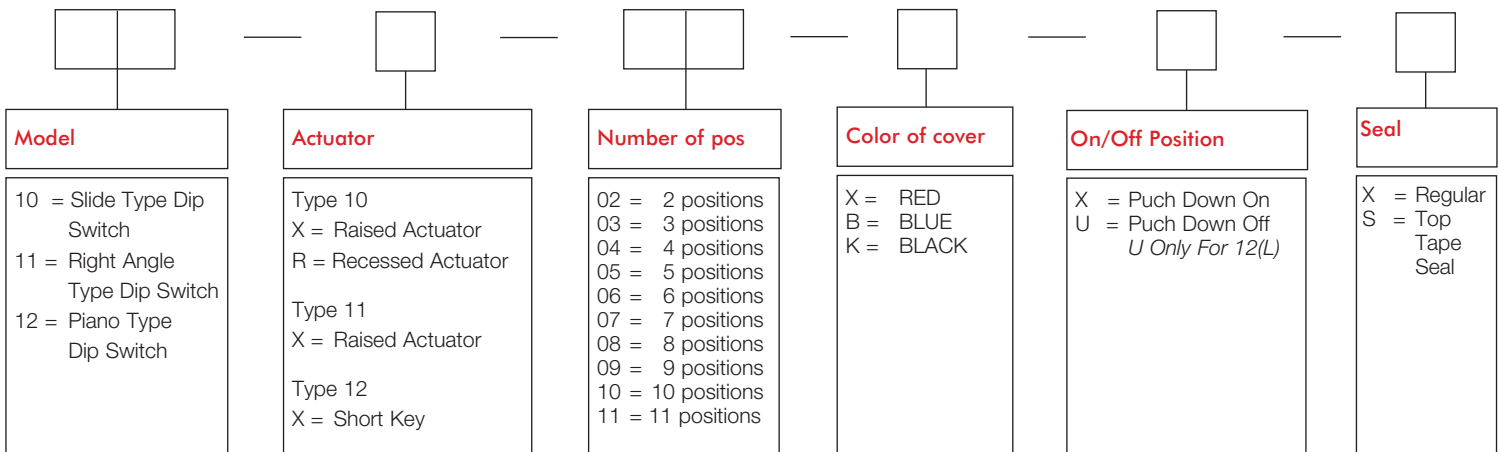
DIMENSIONS

DIM. A			NO. OF POS.	DIM. A	
MODEL				12, 12L	
10 -12	11 -12	12 -12	12	32.04 (1.261)	31.84 (1.254)
10R-12		12L-12			
10 -10	11 -10	12 -10	10	26.96 (1.061)	26.76 (1.054)
10R-10		12L-10			
10 -09	11 -09	12 -09	9	24.42 (.961)	24.22 (.954)
10R-09		12L-09			
10 -08	11 -08	12 -08	8	21.88 (.861)	21.68 (.854)
10R-08		12L-08			
10 -07	11 -07	12 -07	7	19.34 (.761)	19.14 (.754)
10R-07		12L-07			
10 -06	11 -06	12 -06	6	16.80 (.661)	16.60 (.654)
10R-06		12L-06			
10 -05	11 -05	12 -05	5	14.26 (.561)	14.06 (.554)
10R-05		12L-05			
10 -04	11 -04	12 -04	4	11.72 (.461)	11.52 (.454)
10R-04		12L-04			
10 -03	11 -03	12 -03	3	9.18 (.361)	8.98 (.354)
10R-03		12L-03			
10 -02	11 -02	12 -02	2	6.64 (.261)	6.44 (.254)

SCHEMATIC (TYPE)



HOW TO ORDER



Specifications are subject to change without notice

- HALF PITCH (1,27MM) TERMINAL
- GOLD PLATED CONTACTS
- THICKNESS 1.6MM
- SELF-CLEANING CONTACTS

MECHANICAL

Mechanical life: 2000 operations per switch.
 Operation force: 500gf.
 Stroke: 0.6mm.
 Operation temp: -30 °C to +85 °C.
 Storage temp: -40 °C to +85 °C.
 Vibration test: MIL-STD-202F method 201A.
 Frequency: 10-55-10Hz/1 min.
 Directions: X, Y, Z, three mutually perpendicular directions.
 Time: 2 hours each direction.
 High reliability.
 Shock test: MIL-STD-202F method 213B.
 Condition A.
 Gravity: 50G (peak value), 11 m/sec.
 Direction and times: 6 sides and 3 times in each direction.
 High reliability.

ELECTRICAL

Electrical life: 1000 operations per switch 24VDC, 25mA.
 Non-switching rating: 100mA, 50VDC.
 Switching rating: 25mA, 24VDC.
 Contact resistance: 100mΩ max. initial.
 Insulation resistance: 100MΩ min (at 100VDC).
 Dielectric strength: 300VAC/1 minute.
 Capacitance: 5pF max.
 Circuit: single pole single throw.

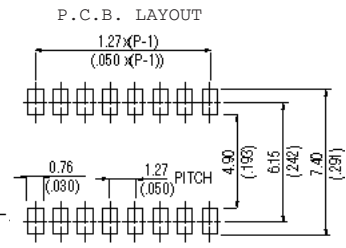
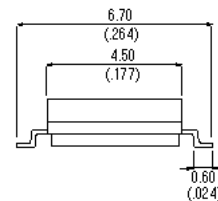
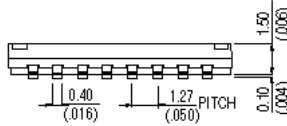
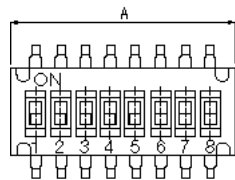
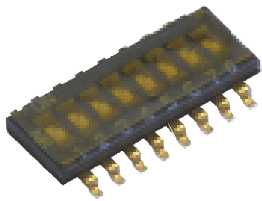
MATERIALS

Base: UL94V-0 PPA thermoplastic, black.
 Cover: UL94V-0 PPA thermoplastic, black.
 Actuators: UL94V-0 PPA thermoplastic, white.
 Contact: copper alloy.
 Contact plating: gold plating over nickel.
 Terminal plating: gold.

DIMENSIONS

MODEL	NO. OF POS.	DIM. A
20-04*	4	6.31 (.248)
20-06**	6	8.85 (.348)
20-08*	8	11.39 (.448)
20-10**	10	13.93 (.548)

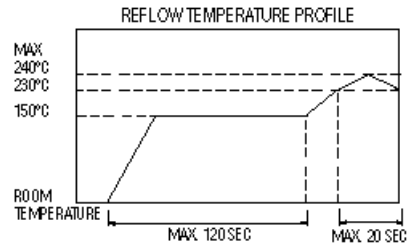
*AVAILABLE **AVAILABLE 2nd HALF 2000



General Tolerance: ±0.2 mm (±0.008)

SOLDERING AND CLEANING PROCESSES

Soldering: Vapor phase & IR-reflow soldering can be applied.
 Cleaning: Freon TE, TF or trichloromethane by ultrasonic wave washing for 2 minutes give excellent results. Reflow temperature profile (reference)



Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch. Do not clean the switch body except with top tape sealed type, which can only spray of cleaning method from top s/w.

Packing:

All dipswitches are shipped in standard IC tubes or tape & reel package with all poles in the "OFF" position.

HOW TO ORDER

Model	Number of positions	Package Style	Seal
20 = NEW HALF PITCH TYPE DIP SWITCH (H = 1.6MM)	04 = 4 positions 06 = 6 positions 08 = 8 positions 10 = 10 positions	X = Tube R = Tape & REEL	X = Regular S = Top Tape Sealed

Example: 20-08-R-S is slide type half pitch DIP switch Recessed Actuator, with seal on tape & reel.

MORE TYPES, LIKE PIANO, TRI-STATE,
 SIP (=SINGLE IN LINE PACKAGE) AND ROTARY DIP AVAILABLE
 SPECIFICATIONS ON REQUEST!

Specifications are subject to change without notice

SPECIFICATIONS

MECHANICAL

Mechanical life: 2000 operations per switch.
 Operation force: 1000gf max.
 Stroke: 1.0mm.
 Operation temp: -20 °C to 70 °C.
 Storage temp: -40 °C to 85 °C.
 Vibration test: MIL-STD-202F method 201A.
 Frequency: 10-55-10Hz/1 min.
 Directions: X, Y, Z, three mutually perpendicular directions.
 Time: 2 hours each direction. High reliability.
 Shock test: MIL-STD-202F method 213B. Condition A.
 Gravity: 50G (peak value), 11 m sec.
 Direction and times: 6 sides and 3 times in each direction.
 High reliability.

ELECTRICAL

Electrical life: 2000 operations min. per switch 24VDC, 25mA.
 Non-switching rating: 100mA, 50VDC.

Switching rating: 25mA, 24VDC.

Contact resistance:

(a) 50mΩ max. initial.

(b) 100mΩ max. after life test.

Insulation resistance: 100MΩ min. at 500VDC.

Dielectric strength: 500VAC/1 minute.

Capacitance: 5pF max.

Circuit: single pole single throw.

MATERIALS

Base & cover: UL94V-0 PPS high temp., thermoplastic, black.

Actuator: UL94V-0 nylon thermoplastic, white.

Contact: copper alloy.

Terminal: brass.

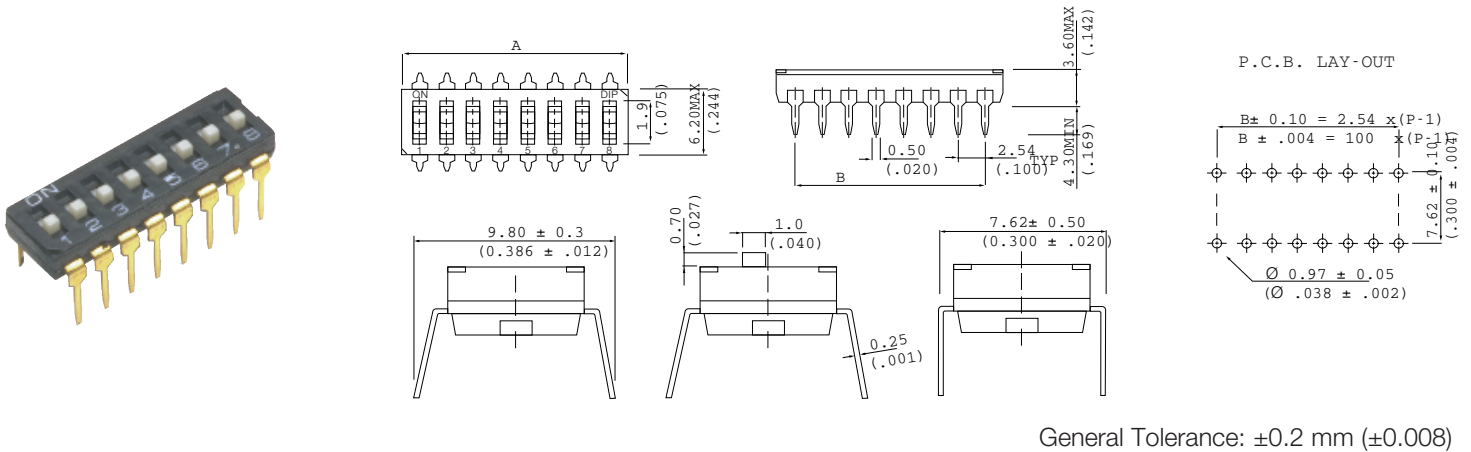
Contact plating: gold plating over nickel.

Terminal plating: gold (or tin/lead available).

- DOUBLE CONTACTS
- LOW CONTACT RESISTANCE
- HIGH RELIABILITY

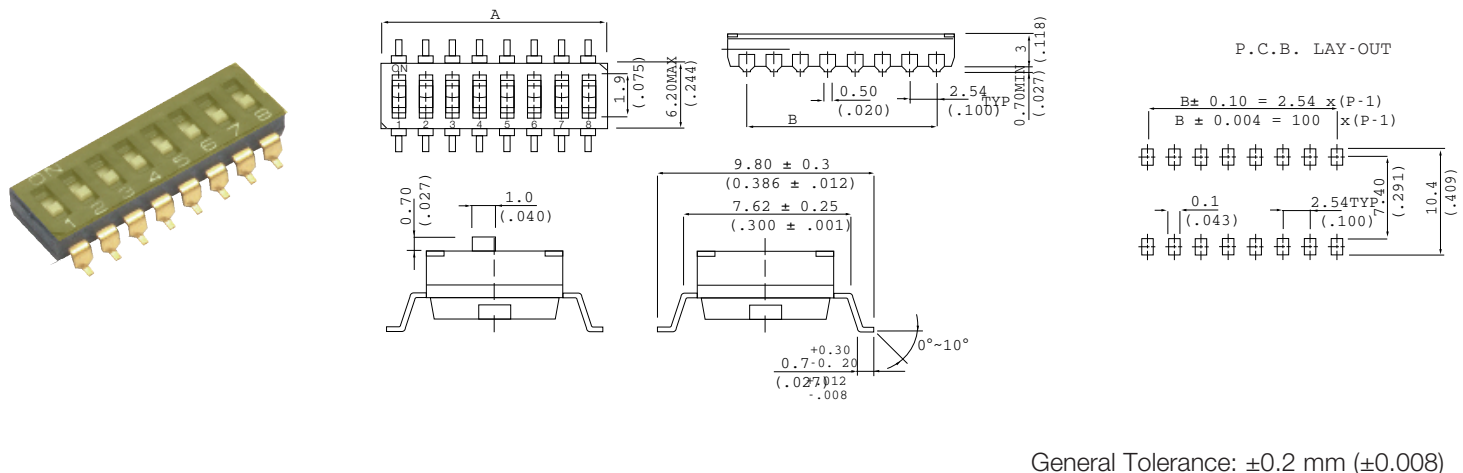
MODEL 30(R)

DIMENSIONS



MODEL 31(R)

DIMENSIONS



1. Splay terminals allow for automatic insertion by IC insertion machine.
2. Straight terminals are available for manual insertion.
3. Insert molding of terminals and ultrasonic welding improve flux proofness and enable flux washing in whole by top tape sealing.
4. 30 series (raised actuator) and 30R series

- (recessed actuator) available for different purposes.
5. Double contacts offers high reliability.
6. Vapour phase solderable, IR-reflow solderable. Terminal plating by gold give excellent results when soldering.
- Terminal plating: tin/lead available too.

SOLDERING AND CLEANING PROCESSES

For best results, please follow these recommendations:

Keep all switch contacts in their "OFF" position for all operations.

Wave soldering: recommended solder temperature at 500 °F (260 °C) max. 5 seconds.

Hand soldering: use a soldering iron of 30 Watts, controlled at 608 °F (320 °C) approximately 2 seconds while applying solder.

Cleaning process: flux clean using force rinse, high agitation or triple bath cleaning method. Freon TF or TE give excellent results.

When vapour methods are used, do not subject

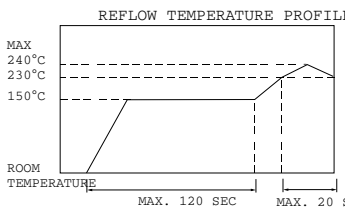
the switch to solvents at temperature above 125 °F (51°C).

Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.

Do not clean the switch body except with top tape sealed type, which can only spray of cleaning method from top s/w.

Packing:

All dipswitches are shipped in standard IC tubes or 31R in tape & reel package with all poles in the "OFF" position.



DIMENSIONS

MODEL		N0. OF POS.	DIM. A	DIM. B
31 -12	30 -12	12	31.42 (1.237)	27.94 (1.100)
31R-12	30R -12			
31 -10	30 -10	10	26.34 (1.037)	22.86 (.900)
31R-10	30R -10			
31 -09	30 -09	9	23.80 (.937)	20.32 (.800)
31R-09	30R -09			
31 -08	30 -08	8	21.26 (.837)	17.78 (.700)
31R-08	30R -08			
31 -07	30 -07	7	18.72 (.737)	15.24 (.600)
31R-07	30R -07			
31 -06	30 -06	6	16.18 (.637)	12.70 (.500)
31R-06	30R -06			
31 -05	30 -05	5	13.64 (.537)	10.16 (.400)
31R-05	30R -05			
31 -04	30 -04	4	11.10 (.437)	7.62 (.300)
31R-04	30R -04			
31 -03	30 -03	3	8.56 (.337)	5.08 (.200)
31R-03	30R -03			
31 -02	30 -02	2	6.02 (.237)	2.54 (.100)
31R-02	30R -02			
31 -01	30 -01	1	3.48 (.137)	-

SCHEMATIC (TYPE)



HOW TO ORDER

Model	Actuator	Number of positions	Shape Of Terminal	Seal	Package Style	Terminal Plating
30 = Machine Insertable Type Dip Switch 31 = Surface Mounting Type Dip Switch	X = Raised Actuator R = Recessed Actuator	01 = 1 position 07 = 7 positions 02 = 2 positions 08 = 8 positions 03 = 3 positions 09 = 9 positions 04 = 4 positions 10 = 10 positions 05 = 5 positions 11 = 11 positions 06 = 6 positions 12 = 12 positions	X = Regular S = Splay Terminal H = Straight Terminal	X = Regular T = Top Tape Seal <i>T Only For 31R, 30R, Except 31R-01, 30R-01</i>	X = Tube R = Tape & Reel <i>R = Only For 31R Except 31R-01</i>	X = Gold L = Tin/Lead

Specifications are subject to change without notice



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