ULP Series Pushbutton Switch

Applications / Markets

Audio / Visual

Consumer Electronics

Vending Machines

Kiosks

Instrumentation

Medical Equipment

RoHS

Specifications

Electrical Rating: Silver: .5A @ 25VDC
Gold: 0.1A Max @ 28VDC
Electrical Life: 200,000 Cycles
Contact Resistance: Silver: 50mΩ Max. initial
Gold: 100mΩ Max. initial
Insulation Resistance: 100 MΩ Min. @ 500VDC
Dielectric Strength: 1,000VAC
Operating/Storage Temperature: -40°C to 85°C
Travel: 2.20mm
Contact Arrangement: SPDT, DPDT
Actuation Force: SPDT: 200gf; DPDT: 300 gf
Panel Thickness: 0.75-3.0mm (panel mount version only)

Features & Benefits

- Single pole or double pole functions
- Multiple color options including RGB color
- Multiple cap color and style options
- PC pin or solder lug termination
- Latching or momentary options
- Gold or silver contact material

Part Number Configurator

Series	Circuit Options	Mechanical Configuration Options	Termination Options	Contact Material Options	Cap Style Options	Cap Color Options	LED #1 Options	LED #2 Options
ULP	**12**- SPDT **22** - DPDT	**EE** - Latching **OA** - Momentary	**P1** - PC Pins **M1**- Solder Lug	**Q** - Silver **R** - Gold	**SS** - Square Sculptured **SF** - Square Flat **PM** - Panel Mount **LS** - Large Sculptured	**CL1** - Clear Lens / White Diffuser **OP1** - Black Opaque	**NIL** - No LED **BLU** - Blue **GRN** - Green **RED** - Red **YEL** - Yellow **RGB** - Red-Green-Blue	**NIL** - No LED **BLU** - Blue **GRN** - Green **RED** - Red **YEL** - Yellow

NOTES:
1) M1 Termination is only available with Panel Mount Cap Style
2) P1 Termination is not available with Panel Mount cap Style
3) OP1 Cap Color (black opaque) is not available with LEDs
4) When ordering RGB LED option, no designation is required for LED#2

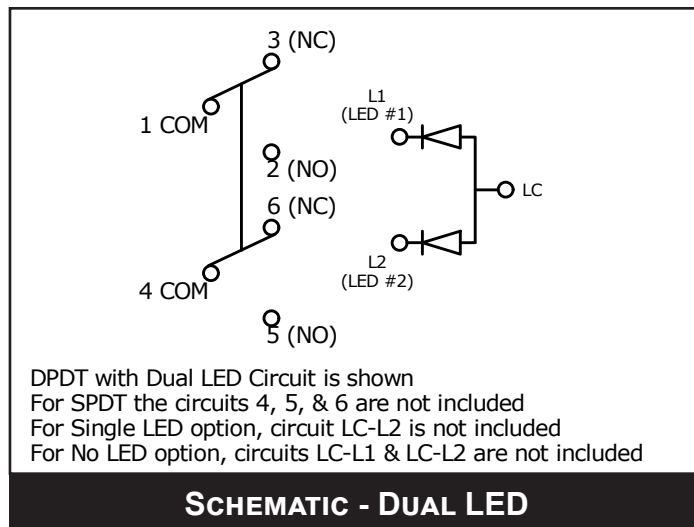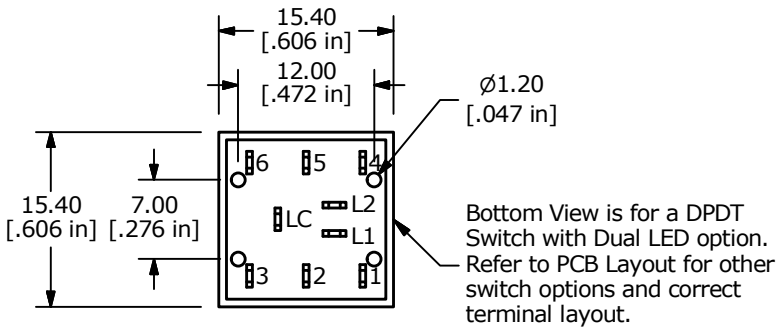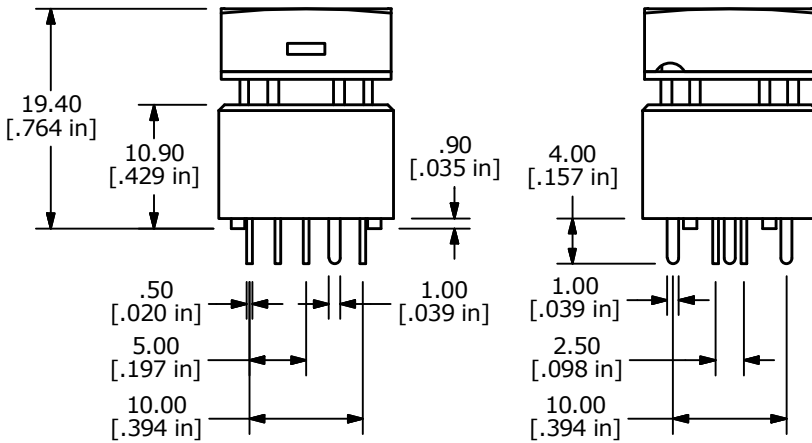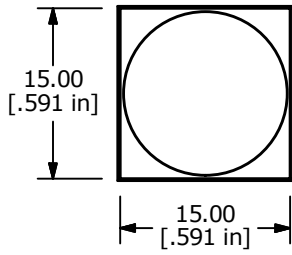*Specifications subject to change without notice 6.27.2022*

ULP Series Pushbutton Switch

Actuator Options - Square Sculptured

15.00 [.591 in]

15.00 [.591 in]

19.40 [.764 in]

10.90 [.429 in]

.90 [.035 in]

4.00 [.157 in]

.50 [.020 in]

1.00 [.039 in]

5.00 [.197 in]

10.00 [.394 in]

1.00 [.039 in]

2.50 [.098 in]

10.00 [.394 in]

15.40 [.606 in]

12.00 [.472 in]

Ø1.20 [.047 in]

15.40 [.606 in]

7.00 [.276 in]

6   5   4

LC   L2
L1

3   2   1

Bottom View is for a DPDT Switch with Dual LED option. Refer to PCB Layout for other switch options and correct terminal layout.

PCB Layout - Dual LED

10.00 [.394 in]

2.50 [.098 in]

5.00 [.197 in]

Ø1.30 [Ø.051 in]

1.25 [.049 in]

3   2   1

L1

10.00 [.394 in]

LC

L2

5.00 [.197 in]

6   5   4

5.00 [.197 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.
For Single LED option, hole L2 is not required
For No LED option, holes L1, L2, & LC are not required

PCB Layout - RGB LED

10.00 [.394 in]

2.50 [.098 in]

5.00 [.197 in]

Ø1.30 [Ø.051 in]

1.25 [.049 in]

3   2   1

L1   L2

10.00 [.394 in]

L4   L3

5.00 [.197 in]

6   5   4

5.00 [.197 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.

Schematic - Dual LED

3 (NC)

1 COM

L1 (LED #1)

2 (NO)

6 (NC)

LC

L2 (LED #2)

4 COM

5 (NO)

DPDT with Dual LED Circuit is shown
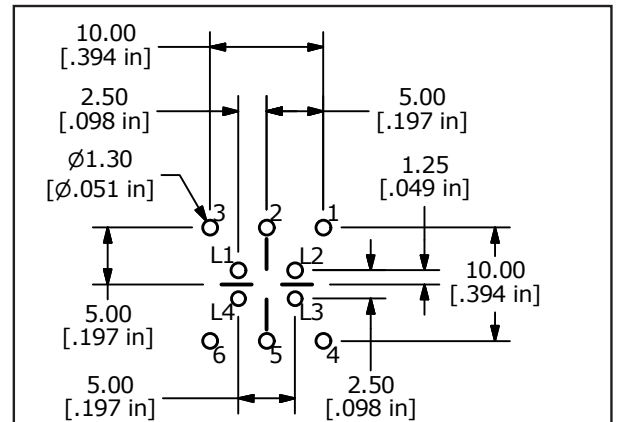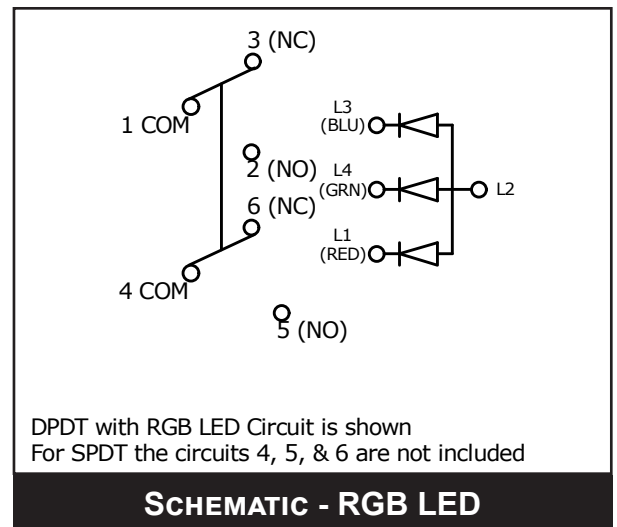For SPDT the circuits 4, 5, & 6 are not included
For Single LED option, circuit LC-L2 is not included
For No LED option, circuits LC-L1 & LC-L2 are not included

Schematic - RGB LED

3 (NC)

1 COM

L3 (BLU)

2 (NO)

L4 (GRN)

6 (NC)

L2

L1 (RED)

4 COM

5 (NO)

DPDT with RGB LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included
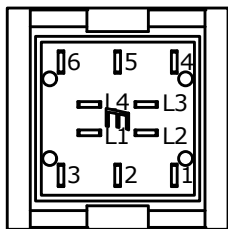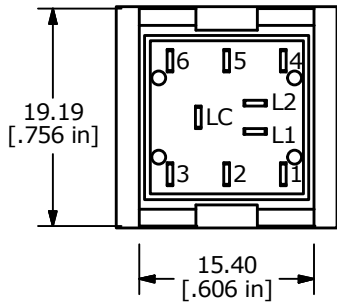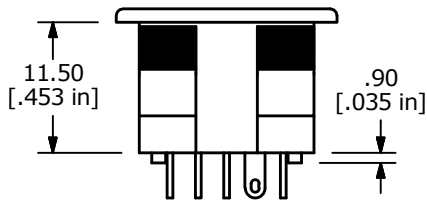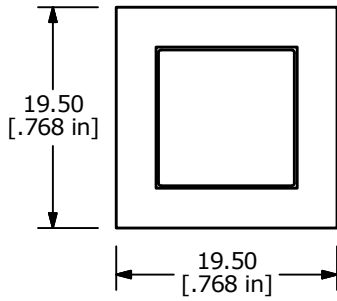
ANTI-VANDAL SWITCHES

DETECTOR SWITCHES

DIP SWITCHES

KEYLOCK SWITCHES

NAVIGATION SWITCHES

PUSHBUTTON SWITCHES

ROCKER SWITCHES

ROTARY SWITCHES

SLIDE SWITCHES

SNAP ACTION SWITCHES

TACTILE SWITCHES
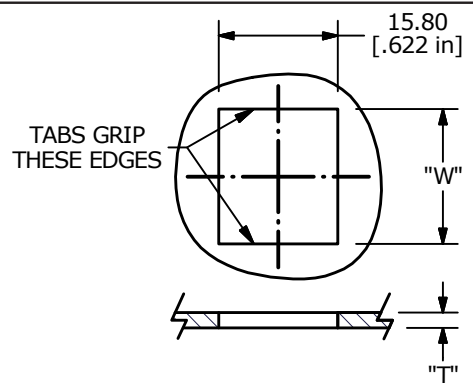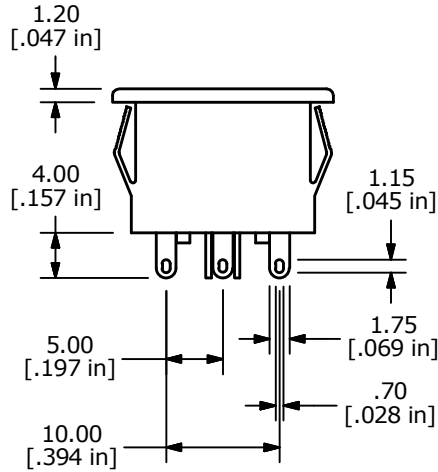
TOGGLE SWITCHES

CAP OPTIONS

Actuator Options - Square Flat

12.00 [.472 in]

12.00 [.472 in]

13.60 [.535 in]

10.90 [.429 in]

.90 [.035 in]

4.00 [.157 in]

.50 [.020 in]

1.00 [.039 in]

1.00 [.039 in]

5.00 [.197 in]

2.50 [.098 in]

10.00 [.394 in]

10.00 [.394 in]

15.40 [.606 in]

15.40 [.606 in]

12.00 [.472 in]

⌀1.20 [.047 in]

7.00 [.276 in]

6 5 4

LC L2 L1

3 2 1

Bottom View is for a DPDT Switch with Dual LED option. Refer to PCB Layout for other switch options and correct terminal layout.

10.00 [.394 in]

2.50 [.098 in]

5.00 [.197 in]

⌀1.30 [⌀.051 in]

1.25 [.049 in]

3 2 1

L1

LC

L2

10.00 [.394 in]

5.00 [.197 in]

6 5 4

5.00 [.197 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.
For Single LED option, hole L2 is not required
For No LED option, holes L1, L2, & LC are not required

PCB Layout - Dual LED

10.00 [.394 in]

2.50 [.098 in]

5.00 [.197 in]

⌀1.30 [⌀.051 in]

1.25 [.049 in]

3 2 1

L1 L2

L4 L3

10.00 [.394 in]

5.00 [.197 in]

6 5 4

5.00 [.197 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.

PCB Layout - RGB LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L1 (LED #1)

L2 (LED #2)

LC

DPDT with Dual LED Circuit is shown
For SPDT the circuits 4, 5, & 6 is not included
For Single LED option, circuit LC-L2 are not included
For No LED option, circuits LC-L1 & LC-L2 are not included

Schematic - Dual LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L3 (BLU)

L4 (GRN)

L1 (RED)

L2

DPDT with RGB LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included

Schematic - RGB LED

ULP Series Pushbutton Switch

Actuator Options - Panel Mount

19.50 [.768 in]

19.50 [.768 in]

11.50 [.453 in]

.90 [.035 in]

1.20 [.047 in]

4.00 [.157 in]

5.00 [.197 in]

10.00 [.394 in]

1.15 [.045 in]

1.75 [.069 in]

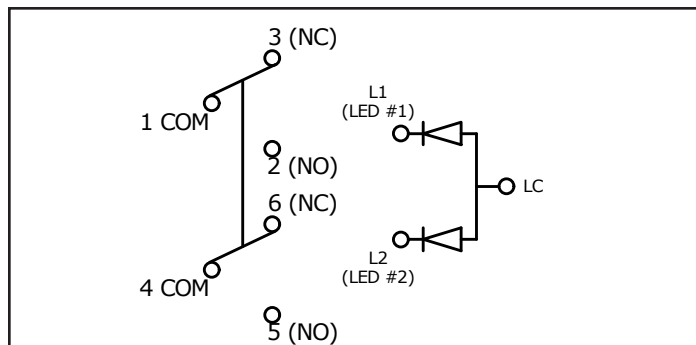.70 [.028 in]

19.19 [.756 in]

6 5 4
LC L2
L1
3 2 1

15.40 [.606 in]

Bottom View of a DPDT Switch with Dual LED option. Refer to Schematic for one LED, zero LED, and SPST options for correct terminal layout.

6 5 4
L4 L3
L1 L2
3 2 1

Bottom View of a DPDT Switch with RGB LED option. Refer to Schematic for SPST option and correct terminal layout.

Recommended Panel Cutout
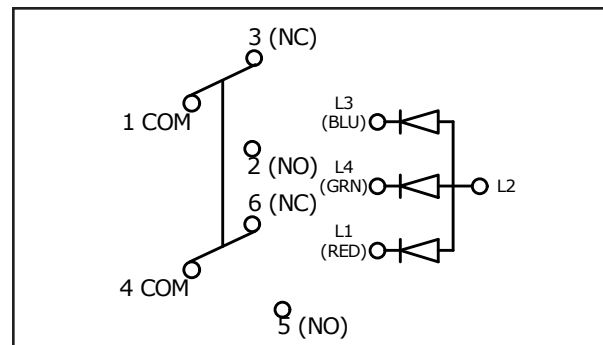
15.80 [.622 in]

TABS GRIP THESE EDGES

"W"

"T"

Panel Cut-out	
Dim "T"	Dim "W"
.75-1.25mm	17.6-17.8mm
1.25-2.0mm	17.8-18.0mm
2.0-3.0mm	18.0-18.2mm

Schematic - Dual LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L1 (LED #1)

L2 (LED #2)

LC

DPDT with Dual LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included
For Single LED option, circuit LC-L2 is not included
For No LED option, circuits LC-L1 & LC-L2 are not included

Schematic - RGB LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L3 (BLU)

L4 (GRN)

L1 (RED)

L2

DPDT with RGB LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included
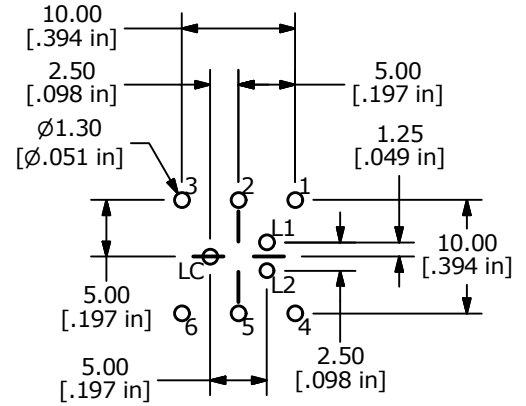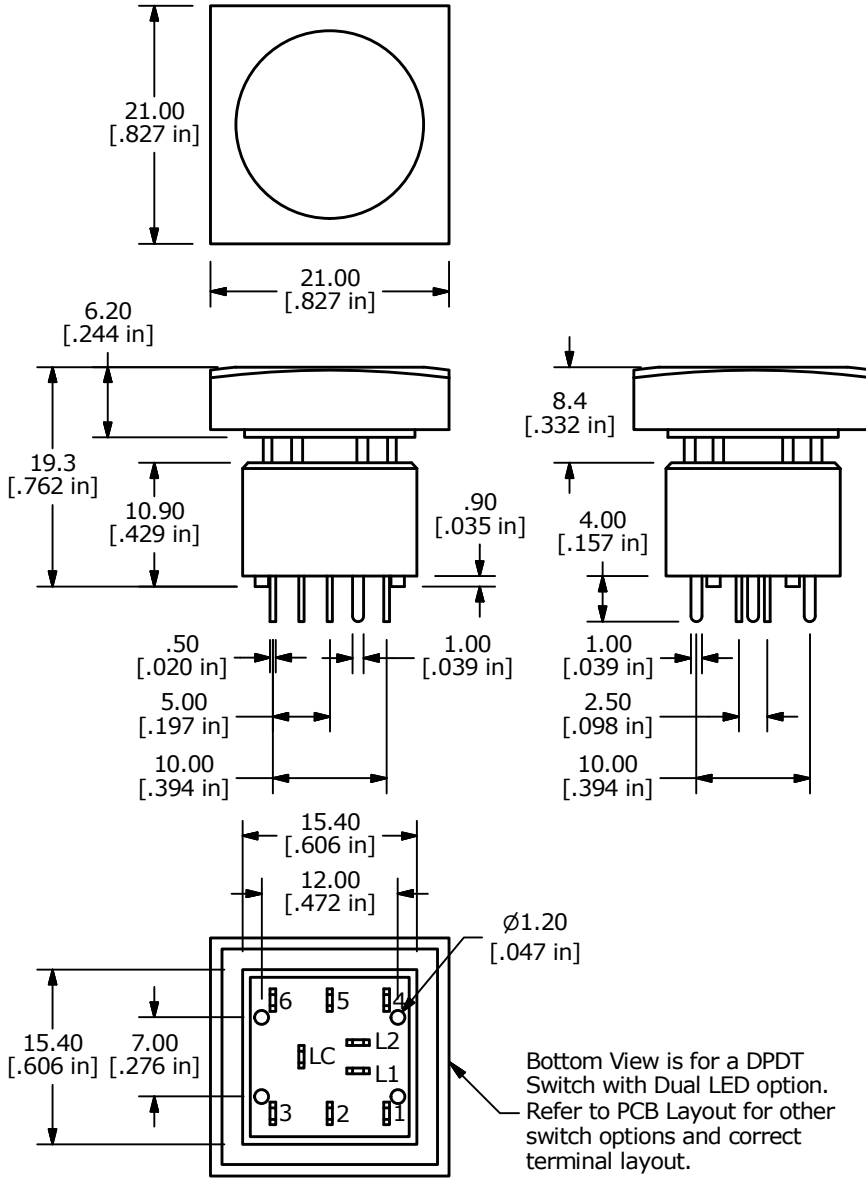
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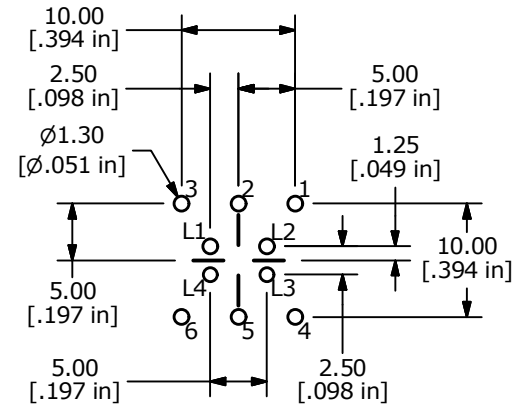
TOGGLE SWITCHES

CAP OPTIONS

Actuator Options - Large Sculptured

21.00 [.827 in]

21.00 [.827 in]

6.20 [.244 in]

19.3 [.762 in]

10.90 [.429 in]

.90 [.035 in]

.50 [.020 in]

1.00 [.039 in]

5.00 [.197 in]

10.00 [.394 in]

8.4 [.332 in]

4.00 [.157 in]

1.00 [.039 in]

2.50 [.098 in]

10.00 [.394 in]

15.40 [.606 in]

12.00 [.472 in]

Ø1.20 [.047 in]

15.40 [.606 in]   7.00 [.276 in]

Bottom View is for a DPDT Switch with Dual LED option. Refer to PCB Layout for other switch options and correct terminal layout.

PCB Layout - Dual LED

10.00 [.394 in]

2.50 [.098 in]

Ø1.30 [Ø.051 in]

5.00 [.197 in]

5.00 [.197 in]

5.00 [.197 in]
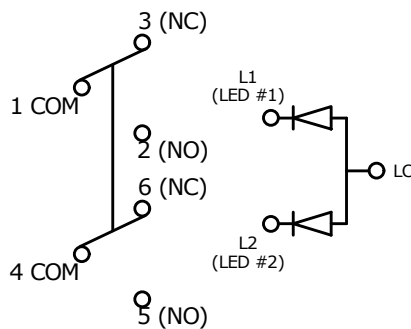
1.25 [.049 in]

10.00 [.394 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.
For Single LED option, hole L2 is not required
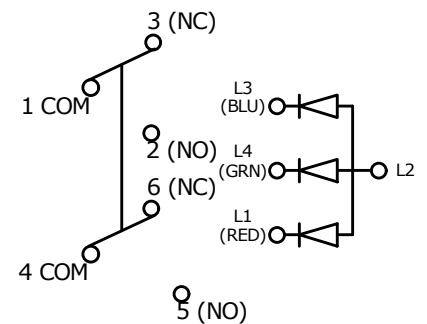For No LED option, holes L1, L2, & LC are not required

PCB Layout - RGB LED

10.00 [.394 in]

2.50 [.098 in]

Ø1.30 [Ø.051 in]

5.00 [.197 in]

5.00 [.197 in]

5.00 [.197 in]

1.25 [.049 in]

10.00 [.394 in]

2.50 [.098 in]

DPDT (ULP22) Layout is Shown
For SPDT (ULP11) holes 4, 5, & 6 are not required.

Schematic - Dual LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L1 (LED #1)

L2 (LED #2)

LC

DPDT with Dual LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included
For Single LED option, circuit LC-L2 is not included
For No LED option, circuits LC-L1 & LC-L2 are not included

Schematic - RGB LED

3 (NC)

1 COM

2 (NO)

6 (NC)

4 COM

5 (NO)

L3 (BLU)

L4 (GRN)

L1 (RED)

L2

DPDT with RGB LED Circuit is shown
For SPDT the circuits 4, 5, & 6 are not included