

MOMENTARY ACTION, ATTRACTIVE & HIGHLY RUGGEDIZED FOR WET & DUSTY ENVIRONMENTS

The LP7-D series pushbutton switches feature a contoured round dome style or square pushbutton. While sharing similar size and characteristics to the P9 series, the LP7-D offers added durability with its anodized aluminum alloy case.

Button versions include flush or raised round dome in glossy or matte finish and raised square in matte finish. The switch series features short behind panel depth. It also offers excellent mechanical and electrical performance while operating under severe conditions found in demanding applications.

The LP7-D Dome series offers one million mechanical operations and an electrical life of 25,000 operations.

The LP7-D series is manufactured to the highest standards and built to withstand harsh environments, offering anodized aluminum alloy cases with seal options of dusttight to IP64 or watertight to IP68S. The LP7-D series offers long life LED lighting in a variety of colors and can accommodate 2 & 12VDC power.

The LP7-D Dome series is a quality precision switch designed for use in panels, control grips, computers, instruments, heavy equipment and other demanding applications where attractive, highly ruggedized pushbutton switches are required.

Features:

- Flush and raised round buttons with glossy or matte finish in a variety of colors
- Raised square button option with matte finish in a variety of colors
- Watertight to IP68S; dusttight to IP64
- LED illuminated with the ability to accommodate 2 & 12VDC power
- 15/32" threaded case style
- RoHS compliant



Flush Dome
Also available with
Raised Dome



Square Dome
with Matte Finish

Standard Characteristics/Ratings:

ELECTRICAL RATINGS:		Sea Level @ 28VDC or 115VAC
Load	N.O./N.C.	S.P.D.T
Resistive	5A	4A
Inductive	3A	2A
Motor	3A	N/A
DWV	1050Vrms through switch contacts only	
Logic Level	10mA @ 5VDC	
Electrical Life:	25,000 cycles	
LIGHTING:		
Light Source Voltage (DC)	Actual Voltage Nominal (DC)	Voltage Max (DC)
2	2	2.6
12	13.5	14.5
Mechanical Life:	1,000,000 cycles	
Seal:	IP64 or IP68S	
Operating Temp Range:	-40°C to +85°C	
Operating Force:	1.7 lbs. ± 0.5 lbs.	
Total Travel:	0.080 inches max	
Overtravel:	0.010 inches min	
MATERIALS:		
Case:	Anodized aluminum alloy	
Button:	Thermoplastic	
Terminals:	Silver with gold plate	
Mounting Hardware:	Hex nut, lockwasher and panel seal gasket	

LP7-D PART NUMBER CODE

Button Style	Terminal Style/Seal	Circuit Form	Contact Rating	Light Source**	Case Color	Button Color
LP7-D X X						
1. Flush Dome Standard Finish - Lightpipe 2. Raised Dome Standard Finish - Lightpipe 3. Flush Dome Matte Finish - Lightpipe 4. Raised Dome Matte Finish - Lightpipe 5. Raised Square Matte Finish - Lightpipe 6. Flush Dome Standard Finish - Fully Illuminated* 7. Raised Dome Standard Finish - Fully Illuminated*	1. Standard Solder Terminal Dusttight 2. Standard Solder Terminal Watertight 3. P.C. Pin Terminal Dusttight 4. P.C. Pin Terminal Watertight	1. N.O. 2. N.C. 3. 2 Circuit	1. Standard Current 2. Logic Level Current	A. 2V Red LED B. 2V Green LED C. 2V Amber LED D. 2V Blue LED E. 2V White LED F. 12V Red LED G. 12V Green LED H. 12V Amber LED J. 12V Blue LED K. 12V White LED	1. Clear Anodized 2. Black Anodized	1. Red 2. Black 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White A. Translucent White*

* Full illumination button styles available with translucent Button Color selection A only.

** 2V LED's are intended for use with an external resistor. See LED voltage chart in appendix for details on the approximate value of the resistor.

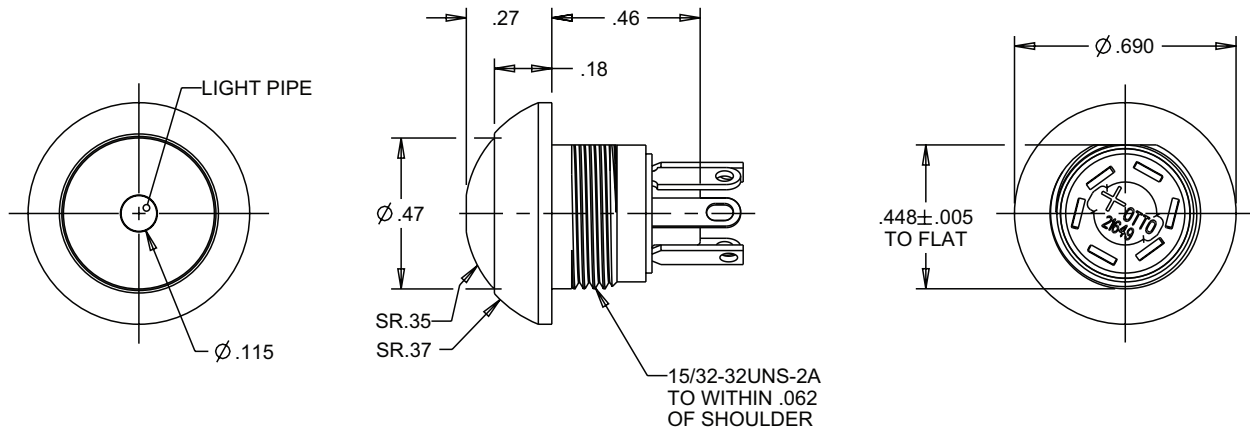
SEALED ILLUMINATED DOME PUSHBUTTONS

LP7-D
ILLUMINATED
PUSHBUTTONS

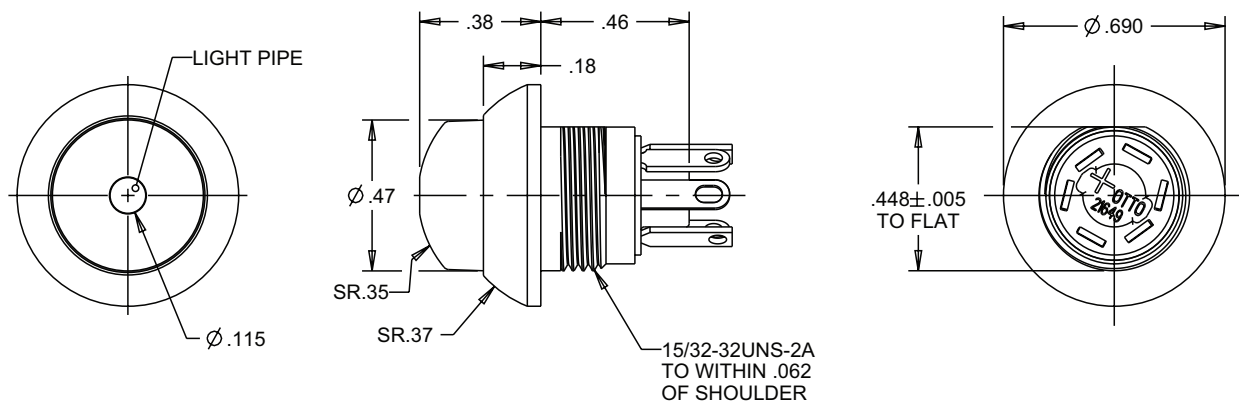
MOMENTARY ACTION, ATTRACTIVE & HIGHLY RUGGEDIZED FOR WET & DUSTY ENVIRONMENTS

Button Options

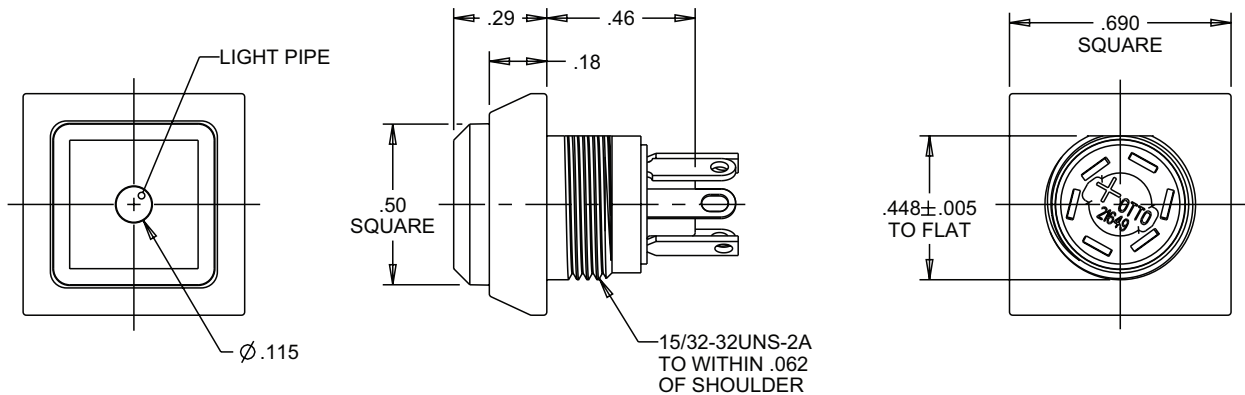
**FLUSH DOME
(STYLE 1 & 3)**



**RAISED DOME
(STYLE 2 & 4)**



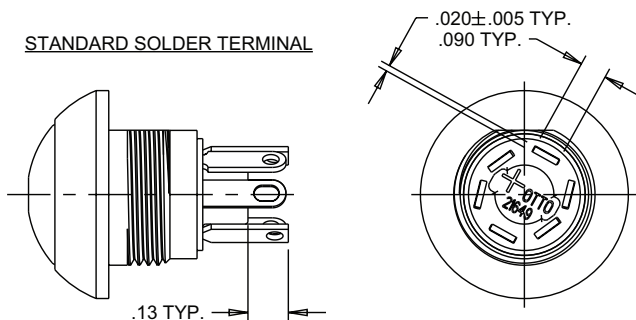
**SQUARE DOME
(STYLE 5)**



MOMENTARY ACTION, ATTRACTIVE & HIGHLY RUGGEDIZED FOR WET & DUSTY ENVIRONMENTS

Terminal Options

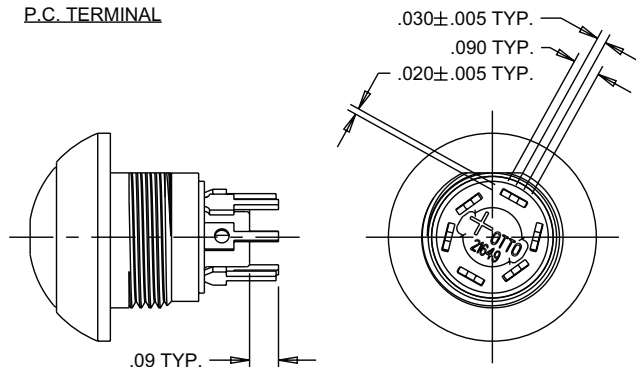
STANDARD SOLDER TERMINAL



N.O. TERMINALS: ROUND END, SLOTTED HOLE (.084 X .055)
N.C. TERMINALS: SQUARE END, ROUND HOLE (Ø .055)
LED TERMINALS: ROUND END, ROUND HOLE (Ø .055)

(PLUS SYMBOL "+" DENOTES LOCATION OF LED TERMINAL ANODE
AND LED TERMINAL CATHODE IS 180° OPPOSITE OF ANODE TERMINAL)

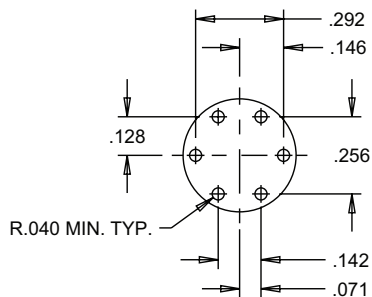
P.C. TERMINAL



N.O. TERMINALS: ROUND HOLE (Ø .048)
N.C. TERMINALS: NO HOLE
LED TERMINALS: ROUND END, ROUND HOLE

(PLUS SYMBOL "+" DENOTES LOCATION OF LED TERMINAL ANODE
AND LED TERMINAL CATHODE IS 180° OPPOSITE OF ANODE TERMINAL)

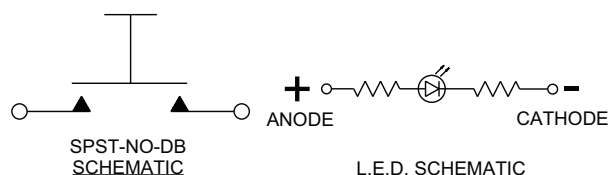
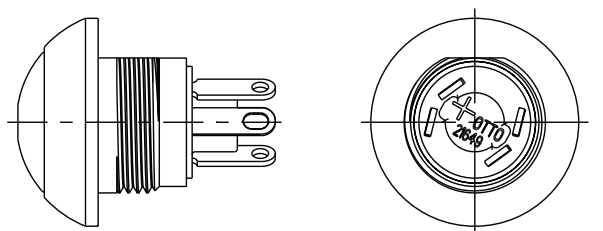
TERMINALS ORIENTED TO CASE FLAT AS SHOWN WITHIN ± 10°
(P.C. TERMINALS ONLY)



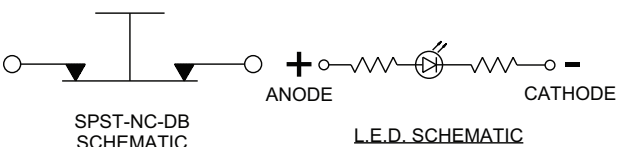
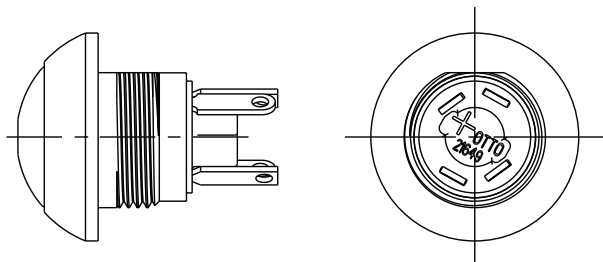
COMPONENT SIDE P.C. MOUNTING
PATTERN, CASE FLAT ON ABOVE
AS DEPICTED IN SWITCH VIEW

Circuit Options

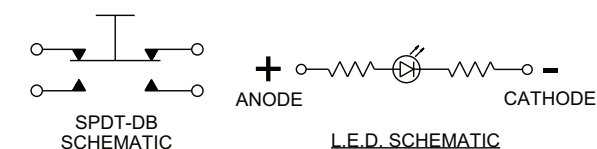
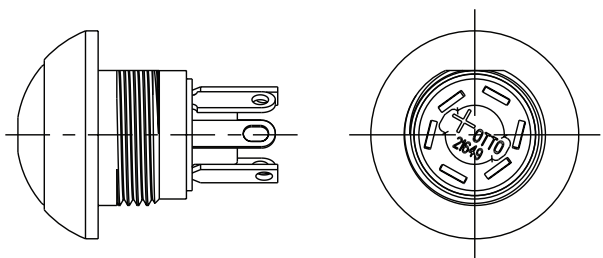
NORMALLY OPEN



NORMALLY CLOSED



2 CIRCUIT



LED VOLTAGE/CURRENT RATINGS TABLE

ROCKER AND ROTARY SWITCH VOLTAGE/CURRENT RATINGS TABLES

K1, K2, K3P and K4 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	1.9 VDC	2.5 VDC
	GREEN	20 mA	2.15 VDC	2.5 VDC
	AMBER	20 mA	1.95 VDC	2.5 VDC
	BLUE	20 mA	3.5 VDC	4.0 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

K3/K5 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

R2 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LIGHT SOURCE COLOR	FORWARD CURRENT	TYPICAL FORWARD/ NOMINAL VOLTAGE	MAX. FORWARD VOLTAGE
2 V LED PRODUCTS*	RED	20 mA	2.0 VDC	2.5 VDC
	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

LED VOLTAGE/CURRENT RATINGS TABLE

ILLUMINATED PUSHBUTTON SWITCH & INDICATOR LIGHTS VOLTAGE/CURRENT RATINGS TABLES

LP3, LP5 AND LPL SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE (DC)	MAX. FORWARD VOLTAGE DC
2V* PRODUCTS	RED	20 mA	1.9V	2.5V
	GREEN	20 mA	2.2V	2.6V
	AMBER			
	BLUE	20 mA	3.3V	4V
	DEEP GREEN			
6V PRODUCTS	ALL COLORS	20 mA	6V	8V
12V PRODUCTS	ALL COLORS	20 mA	12V	14.5V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP3S

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V* PRODUCTS	RED	20 mA	2 V	2.5 V
	GREEN			
	AMBER			
	BLUE	20 mA	3.2 V	4 V
	DEEP GREEN			
	WHITE			
12V PRODUCTS	ALL COLORS	20 mA	12V	14V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP7-D and LP9 SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V LIGHTPIPE STYLE	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
2V, TRANSLUCENT FULLY ILLUMINATED STYLE	RED (630)	20 mA	1.95V	2.5V
	GREEN (525)	20 mA	3.3V	4.1V
	AMBER (601)	20 mA	2.1V	2.5V
	BLUE (465)	20 mA	3.3V	4V
	WHITE	5 mA	2.85V	3.1V
12V ALL PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

LP9L SERIES

LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V PRODUCTS	RED (631)	20 mA	2V	2.4V
	GREEN (525)	20 mA	3.2V	3.6V
	AMBER (591)	20 mA	2.1V	2.4V
	BLUE (470)	20 mA	3.3V	3.8V
	WHITE	5 mA	2.9V	3.15V
12V PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

$$\text{RESISTOR SIZE} = \frac{\text{POWER SUPPLY VOLTAGE} - \text{LED FORWARD VOLTAGE}}{\text{LED FORWARD CURRENT}}$$

Mouser Electronics

Authorized Distributor

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