

# PL Series

## Right Angle Illuminated Latching Pushbutton Switches



### MATERIALS

**FIXED CONTACTS AND TERMINALS:** Stainless steel, silver plated with gold flash (STD.)

**MOVABLE CONTACTS:** Copper alloy, silver plated with gold flash (STD.).

**ACTUATOR:** Glass filled nylon 6/6 (UL94V-0).

**BASE:** Glass filled LCP (UL94V-0).

**COVER:** Stainless steel.

### WITH LED ELECTRO-OPTICAL DATA :

Lens Appearance	Color	Electro-optical Data (AT 20mA)				Peak wavelength	Viewing Angle 2θ 1/2 (deg)
		Vf(V)		Iv(mcd)			
		Typ.	Max.	Min.	Typ.		
Water Clear	Red	2.3	2.6	13	13	700	35°
	Yellow	2.1	2.6	30	30	585	
	Green	2.2	2.6	50	50	568	

### SPECIFICATIONS

#### ELECTRICAL

**MAXIMUM POWER:** 3.5 VA.

**MIN./MAX. VOLTAGE:** 20 mV - 50 VDC.

**MIN./MAX. CURRENT:** 0.01mA - 250 mA.

**INSULATION RESISTANCE:** ≥ 10<sup>9</sup> Ω.

**CONTACT RESISTANCE:** ≥ 50 mΩ.

**DIELECTRIC STRENGTH:** ≥ 250 Vrms.

#### MECHANICAL

**OPERATING FORCE:** 2.5 N at Full Travel.

**SWITCHING TRAVEL:** .130" (2.95mm).

**LATCH TRAVEL:** .131" (3.3mm).

**FULL TRAVEL:** .200" (5.1mm).

#### OPERATING ENVIRONMENT

**OPERATING TEMPERATURE:** -30°C TO 85°C.

**STORAGE TEMPERATURE:** -30°C TO 85°C.

**RELATIVE HUMIDITY:** 90% R.H. @80°C.

**OPERATING LIFE:** 30,000 Cycles.

**VIBRATION:** Per EIA 186-E Methods 7 & 8.

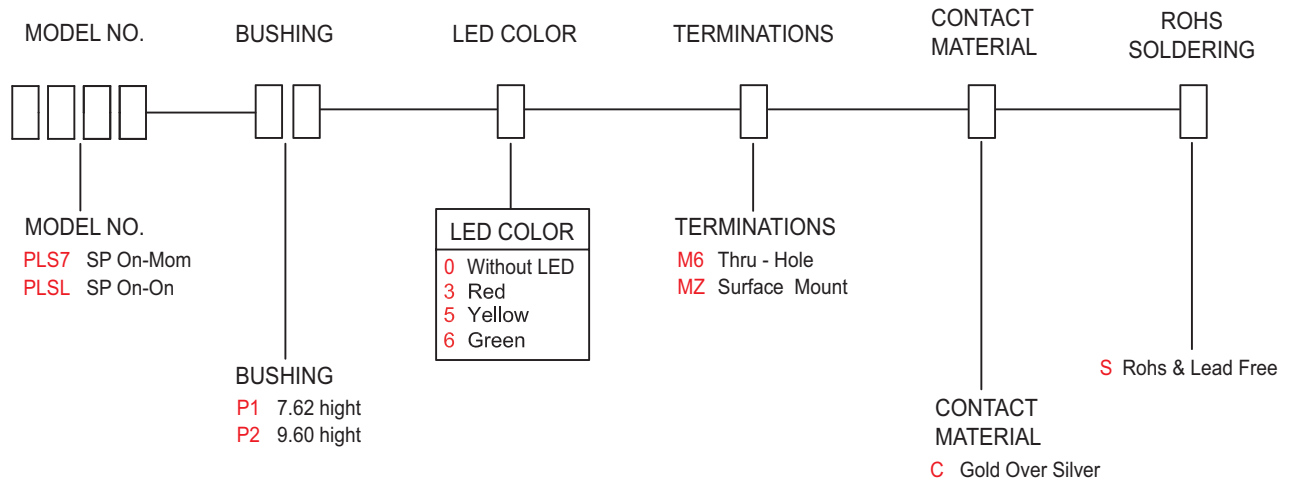
**MECHANICAL SHOCK:** Per EIA 186-E Methods 12.

#### PROCESS ENVIRONMENT

**SOLDERABILITY:** According to Mil STD 202F Method 208D or EIA RS-186E Method 9.

**LEAD FREE PROCESS COMPATIBLE:** 260°C peak, 10 seconds Max. above 250°C.

## HOW TO ORDER



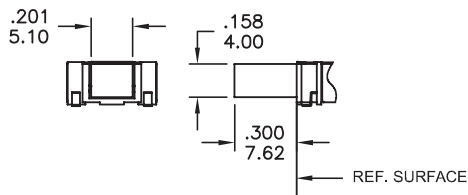
### SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS.1	POS.2	POS.1	POS.2	
SP	PLS7	ON	ON(MOM)	3-4	2-3	
SP	PLSL	ON	ON	3-4	2-3	

MOM=MOMENTARY

### ACTUATOR OPTIONS

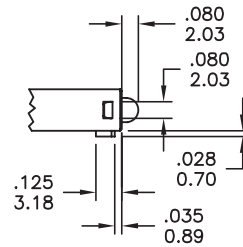
#### P10 WITHOUT WINDOW



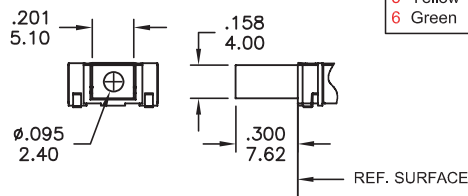
#### P2X WITHOUT WINDOW AND SNAP FEATURE TO ACCEPT CUSTOM CAP

X=LED COLOR

- 0 Without LED
- 3 Red
- 5 Yellow
- 6 Green

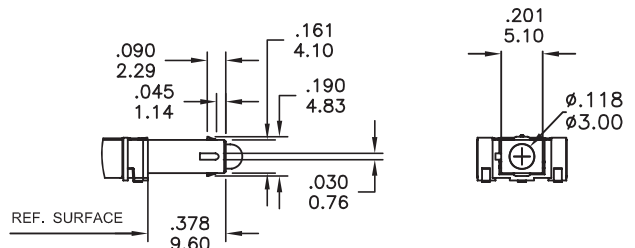


#### P1X WITH WINDOW

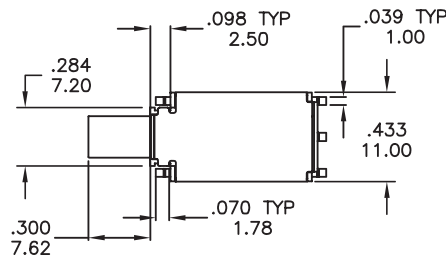


X=LED COLOR

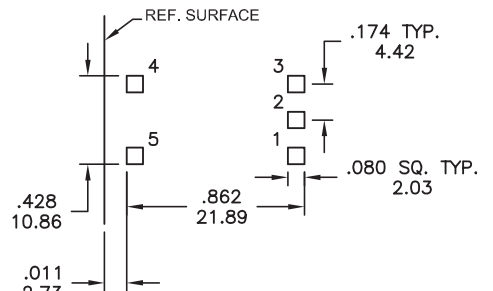
- 0 Without LED
- 3 Red
- 5 Yellow
- 6 Green



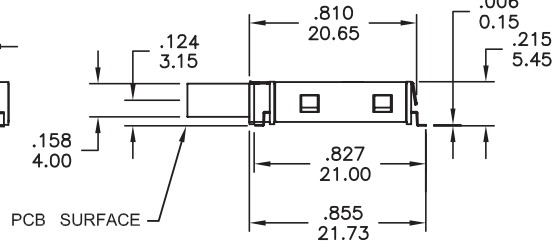
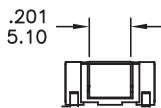
#### MZ



#### PCB MOUNTING



#### SPDT

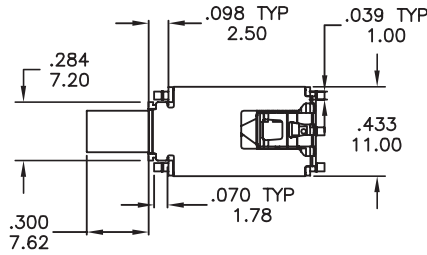


Part No. Shown : PLS7P10MZCS

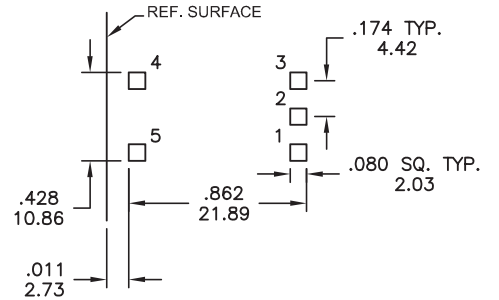
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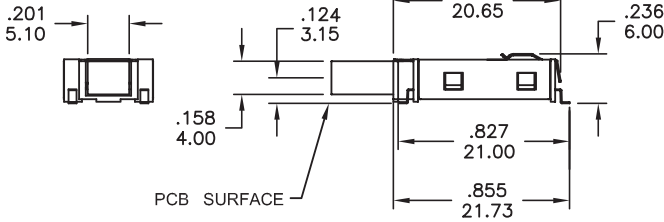
MZ



PCB MOUNTING

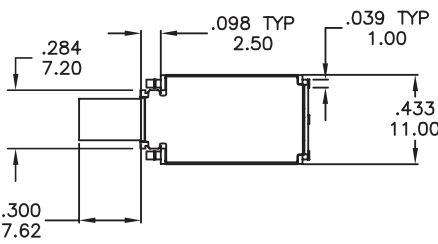


SPDT

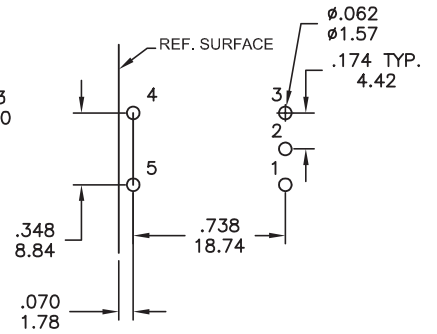


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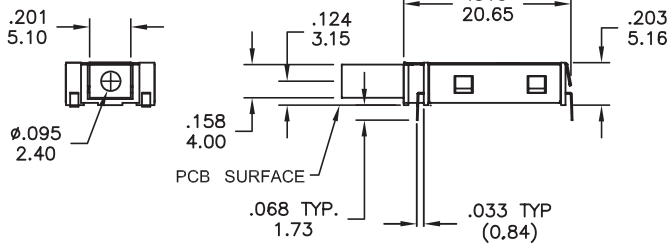
M6



PCB MOUNTING

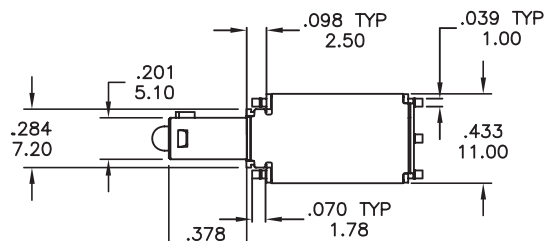


SPDT

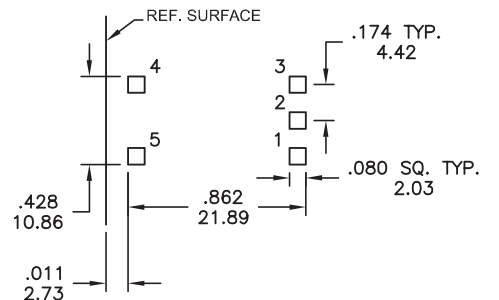


Part No. Shown : PLS7P1XM6CS

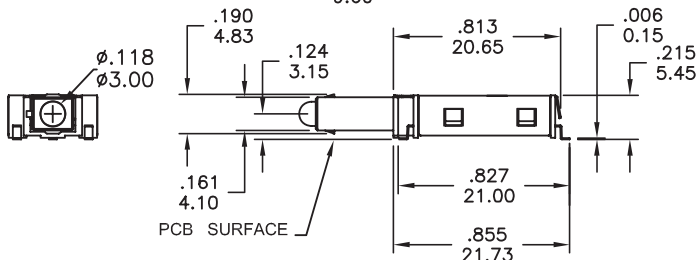
MZ



PCB MOUNTING



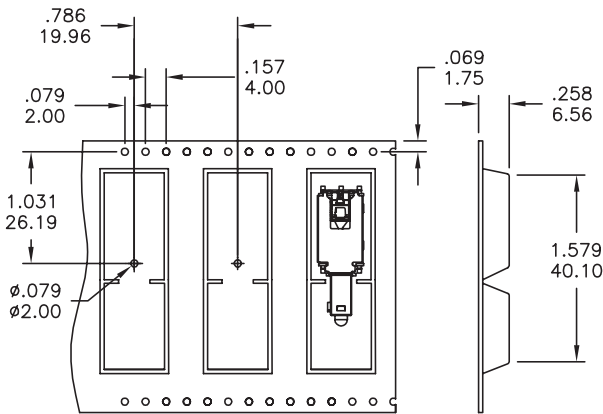
SPDT



Part No. Shown : PLS7P2XMZCS

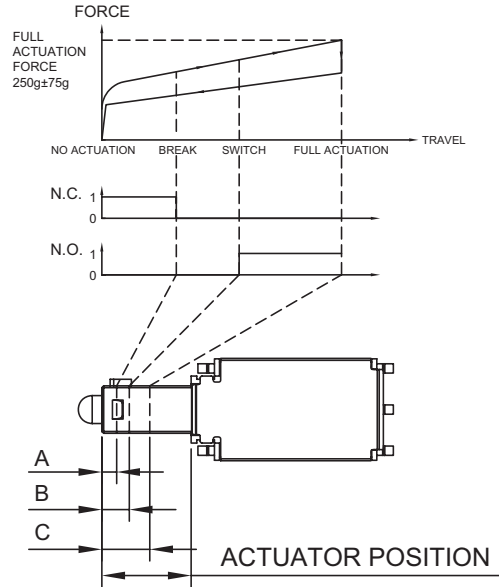
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### TAPE & REEL



REEL INFORMATION	
QUANTITY PER REEL	450 PCS

### FORCE TRAVEL DIAGRAM



ACTUATOR POSITION			
A	BREAK	.063±.020	1.6±0.5mm
B	SWITCH	.116±.020	2.95±0.5mm
C	FULL ACTUATION	.203±.020	5.15±0.5mm



### SOLDERING PROCESSES

**WAVE SOLDERING** : Recommended Soldering Temperature: 260±5°C  
 Duration of Solder Immersion: 5 ±1 seconds  
 (PCB is 1.6mm in thickness)

**SOLDERING** : Vapor phase & IR- reflow soldering can be applied.

### Temperature Profile

Zone	Room temperature	Time ( Sec )
Pre-heat ( A )	150°C	Min 120s
Soak ( B )	180°C~200°C	Min 150s
Peak ( C )	200°C~235°C	Min 30s
Peak ( D )	235°C~260°C	Min 40s
Peak ( E )	260°C	Max 10s

