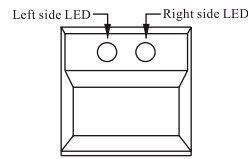


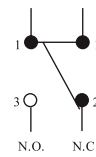
Pushbutton Switches

Momentary Pushbutton Switches with LED

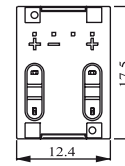
PB9 Series



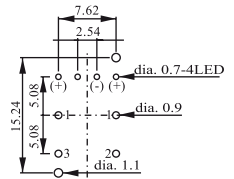
LED Positions



SPDT Contact Configuration

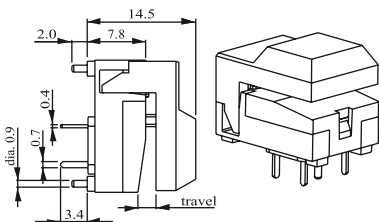


Bottom View

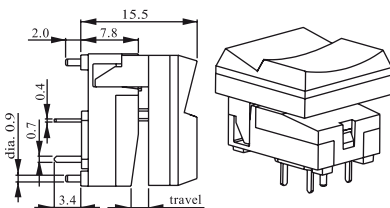


P.C.B. Mounting Holes

CAP TYPES

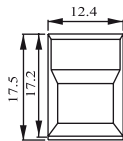


NS & NL Stand Cap

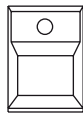


TS & TL Transparent Cap

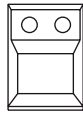
CAP STYLE



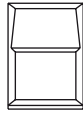
NS0



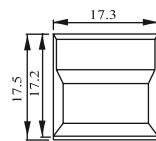
NS1



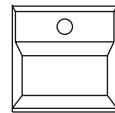
NS2



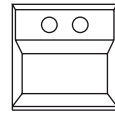
TS_



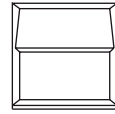
NLO



NL1

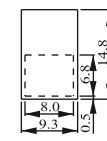


NL2

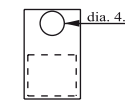


TL_

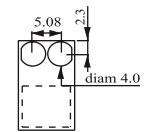
PAPERBOARD



Non LED



One-LED



Two-LED

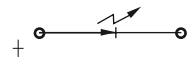
Note: write area (Paperboard only for cap type TS & TL)

LED CHARACTERISTICS

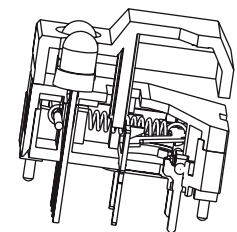
Parameters	Symbol (Unit)	Red	Yellow	Green	Blue
Forward Voltage	$V_f(V)$	2.0	2.1	2.2	3.5
Forward Current	$I_f(mA)$	20	20	20	20
Permissible Loss	$P_d(mW)$	80	80	80	120
Luminous Intensity	$I_v(mcd)$	60	50	60	600
Peak Wave Length	$\lambda P(nm)$	635	585	568	470
Reverse Voltage	$V_R(V)$	5			
Reverse Current $V_R=5V$	(μA)	100			
Soldering Temperature	($^{\circ}C$)	260 for 5 seconds			

The electrical specifications shown are determined at a basic temperature of 25°C. If the source voltage exceeds the rated of LED, a ballast resistor has to be connected in series with the LED.

Attention: LED are electrostatic sensitive devices



CUTAWAY



How to order:



- 1 CAP TYPE & STYLE:**
- NS0 Small Cap without LED
 - NS1 Small Cap with One-LED
 - NS2 Small Cap with Two-LED
 - NLO Large Cap without LED
 - NL1 Large Cap with One-LED
 - NL2 Large Cap with Two-LED
 - TS0 Transparent Small Cap without LED
 - TS1 Transparent Small Cap with One-LED
 - TS2 Transparent Small Cap with Two-LED
 - TL0 Transparent Large Cap without LED
 - TL1 Transparent Large Cap with One-LED
 - TL2 Transparent Large Cap with Two-LED

- 2 CAP COLORS (Only for NS & NL Cap):**
- C Red
 - E Yellow
 - F Green
 - B White
 - A Black
 - D Orange
 - G Blue
 - H Grey

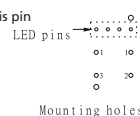
- 3 LED COLORS:**
- 00 Without LED
 - 0C One-LED: Red
 - 0E One-LED: Yellow
 - 0F One-LED: Green
 - 0G One-LED: Blue

- Two-LED (Left / Right):**
- CC Red / Red
 - CE Red / Yellow
 - CF Red / Green
 - CG Red / Blue
 - EC Yellow / Red
 - EE Yellow / Yellow
 - EF Yellow / Green
 - EG Yellow / Blue
 - FC Green / Red
 - FE Green / Yellow
 - FF Green / Green
 - FG Green / Blue
 - GC Blue / Red

- GE Blue / Yellow**
GF Blue / Green
GG Blue / Blue

- 4 LED TERMINAL & ELECTRODE DIRECTION:**
- 0 + o - Bend (One-LED)
 - no code o + o Standard (One-LED)
 - 2 o - o (One-LED)
 - no code + - + Standard (Two-LED)
 - 4 - - - (Two-LED)
 - 5 - - + (Two-LED)
 - 6 + - - (Two-LED)

- Standard: No Code
 + : anode
 - : cathode
 o : none this pin



General Specifications:

ELECTRICAL & MECHANICAL SPECIFICATIONS:

- » Circuit: SPDT
- » Current Rating: 12 mA
- » Voltage Rating: 24 VDC
- » Contact Resistance: 50 mΩ max. (initial)
- » Insulation Resistance: 100MΩ min.
- » Operating Force: 170±50 gf
- » Total Travel: 2.5±0.5 mm
- » Operating Life: 1,000,000 cycles min.
- » Soldering: 260 °C for 3 seconds
- » Operating Temperature: -10 °C ~ +60 °C
- » Function: Momentary

MATERIALS

- » Cap: Acrylonitrile Butadiene Styrene (ABS)
- » Case: Polyamide (PA)
- » Fixed Support: Stainless steel wire
- » Terminals: Phosphor bronze (PBS) with gold plating
- » Moving Contact: Phosphor bronze (PBS) with gold plating
- » Spring: Piano wire
- » LED: 3mm Diameter LED lamp