Environmentally friendly components and packaging materials meet RoHS Directive restricting use of hazardous materials. Suited for lead-free soldering because of heat resistant resin materials.

Smooth, slightly concave surface of cap designed to fit fingertip. Unique design and construction of cap prevents its removal and limits tampering.

Bright LED illumination in choice of red, green, or amber through translucent white cap.

Short body of .551" ( 14.0 mm ) conserves behind-panel space.

Combination solder lug and $.110^{\prime \prime}$ quick connect terminals.

Crisp actuation and clear circuit status provided by snap-action contact mechanism. Arc barrier between movable contacts protects against crossover.

Nonilluminated models available and shown in the Pushbutton section.


Actual Size


# General Specifications 

## Electrical Capacity (Resistive Load)

Power Level (silver): 3A @ 125V AC or 3A @ 250V AC or 3A @ 30V DC

## Other Ratings

Contact Resistance: 50 milliohms maximum
Insulation Resistance: 200 megohms minimum @ 500V DC
Dielectric Strength: $1,000 \mathrm{~V}$ AC minimum between contacts for 1 minute minimum
$1,500 \mathrm{~V}$ AC minimum between contacts and case for 1 minute minimum
Mechanical Life: $\quad 500,000$ operations minimum
Electrical Life: 50,000 operations minimum
Nominal Operating Force: $\quad 1.5 \mathrm{~N}$ for Single Pole; 3.0 N for Double Pole
Contact Timing: Nonshorting (break-before-make)
Travel: Total Travel .118" (3.0mm)

## Materials \& Finishes

| Actuator: <br> Housing: | Polycarbonate <br> Bushing mount: Glass fiber reinforced polyamide (UL94V-O); <br> Snap in mount: Polyphenylene ether (UL94V-0) |
| ---: | :--- |
| Base: | Diallyl phthalate (UL94V-0) |
| Movable Contact: | Phosphor bronze \& silver with silver plating |
| Stationary Contacts: | Common terminal: Phosphor bronze with silver plating; <br>  <br> Contact terminals: Phosphor bronze with tin \& copper plating |
| Lamp Terminals: | Phospher bronze with tin and copper plating |

## Environmental Data

Operating Temp Range
Humidity
Vibration: $\quad 10 \sim 55 \mathrm{~Hz}$ with peak-to-peak amplitude of 1.5 mm traversing the frequency range \& returning in 1 minute; 3 right angled directions for 2 hours
Shock: $50 G\left(490 \mathrm{~m} / \mathrm{s}^{2}\right)$ acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

## Installation

Mounting Torque: $\quad 0.8 \mathrm{Nm}(7.08 \mathrm{lb} \cdot$ in $)$
Soldering Time \& Temperature: Manual Soldering: See Profile A in Supplement section. Cleaning: Hand clean locally with alcohol based solution

## Standards \& Certifications

Flammability Standard
UL Recognition:
© 10
C-UL Recognition:

UL94V-0 housing \& base
All single \& double pole models recognized at 3 A @ $125 \mathrm{~V} / 250 \mathrm{~V}$ AC or $3 \mathrm{~A} @ 30 \mathrm{~V}$ DC UL File No. WOYR2.E44145; add "/U" to end of part number to order UL mark on switch All single \& double pole models recognized at $3 \mathrm{~A} @ 125 \mathrm{~V} / 250 \mathrm{~V}$ AC or $3 \mathrm{~A} @ 30 \mathrm{~V}$ DC C-UL File No. WOYR8.E44145; add "/C-UL" to end of part number to order C-UL mark on switch

## TYPICAL SWITCH ORDERING EXAMPLE



## DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

LPO 1 15CCKWO15CB


## IMPORTANT:

Switches are supplied without UL \& C-UL marking unless specified. Specific models \& ratings noted on General Specifications page.

| POLES \& CIRCUIT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Plunger Position ( ) = Momentary |  | Connected Terminals |  | Throw \& Power/Lamp Schematics |  |
| Pole | Model | Normal | Down | Normal | Down | Note | Terminal markings "COM, NO, NC, L, + and -" are actually on the switch; terminal numbers are not on the switch. |
| SP | LP0115 | ON | (ON) | 1-3 | 1-2 | SPDT |  |
| DP | LPO125 | ON | (ON) | 1-3 4-6 | 1-2 4-5 | DPD |  |

## MOUNTING TYPES



## Bushing

. $630^{\prime \prime}$ ( 16.0 mm ) Diameter
This mounting option is supplied with a brass hexagon nut with nickel plating.

Recommended Panel Thickness:

$$
\begin{gathered}
.079^{\prime \prime} \sim .256^{\prime \prime} \\
(2.0 \mathrm{~mm} \sim 6.5 \mathrm{~mm})
\end{gathered}
$$



Allow . $984^{\prime \prime}(25.0 \mathrm{~mm})$ distance between switches when mounted side-by-side.

## M

## Snap-in

$.669^{\prime \prime}$ ( 17.0 mm ) Diameter


Recommended Panel Thickness:

$$
\begin{gathered}
.039^{\prime \prime} \sim .126^{\prime \prime} \\
(1.0 \mathrm{~mm} \sim 3.2 \mathrm{~mm})
\end{gathered}
$$



Allow .827" (21.0mm) distance between switches when mounted side-by-side.

## HOUSING

## CONTACT MATERIALS, RATINGS, \& TERMINALS



## Silver

## Power Level

3A @ 125V AC/250V AC; 3A @ 30V DC

Note: If used at $1 \mathrm{~A} @ 125 \mathrm{~V}$ AC/250V AC or $1 \mathrm{~A} @ 30 \mathrm{~V}$ DC, electrical life will be 100,000 operations minimum.

Solder Lug/
. $110^{\prime \prime}$ ( 2.8 mm ) Quick Connect


## CAP COLOR

B
White The translucent cap is an integral part of the switch and is not available separately.

$$
\text { Material: Polycarbonate } \quad \text { Finish: Matte }
$$



## LED COLORS \& SPECIFICATIONS

The electrical specifications shown are determined at a basic temperature of $25^{\circ} \mathrm{C}$.
LED circuit is isolated and requires external power source. Polarity marks are on the switch.
If the source voltage exceeds the rated voltage, a ballast resistor is required.
The resistor value can be calculated by using the formula in the Supplement section.

LEDs are an integral part of the switch and are not available separately.

| Single Color LED with 1 Element |  | $\boxed{5 C}$ | $\boxed{5 D}$ | $\boxed{5 F}$ |
| :--- | :--- | :---: | :---: | :---: |
| Forward Peak Current | Colors | Red | Amber | Green |
| Continuous Forward Current | $\mathrm{I}_{\mathrm{FM}}$ | 30 mA | 30 mA | 30 mA |
| Forward Voltage | $\mathrm{I}_{\mathrm{F}}$ | 20 mA | 20 mA | 20 mA |
| Reverse Peak Voltage | $\mathrm{V}_{\mathrm{F}}$ | 1.95 V | 2.0 V | 2.1 V |
| Current Reduction Rate Above $25^{\circ} \mathrm{C}$ | $\Delta \mathrm{I}_{\mathrm{F}}$ | $0.41 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ | $0.29 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ | $0.39 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ |
| Ambient Temperature Range |  |  | 5 V |  |

## TYPICAL SWITCH DIMENSIONS

## Bushing Mount • Single Pole



## LP0115CCKW015CB

## Bushing Mount • Double Pole



## TYPICAL SWITCH DIMENSIONS

## Snap-in•Single Pole



## Snap-in • Double Pole



## LEGENDS



Easily create and submit your own legends using our new on-line Legend Maker.
Visit www.nkkswitches.com
For other legend support options, customers may either contact the factory or utilize the general information and basic specifications presented below.

## Suggested Printable Area for LPO1 Cap



## Recommended Methods:

Pad Print or Laser Etch on cap. Epoxy based ink is recommended.


Shaded area is printable area

