## : ©hipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation, and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!


## Contact us

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# General Specifications 

## Electrical Capacity (Resistive Load)

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

## Other Ratings

Contact Resistance: $\quad 50$ milliohms maximum
Insulation Resistance: $\quad 200$ megohms minimum @ 500V DC
Dielectric Strength: 1,000V AC minimum between contacts for 1 minute minimum
$1,500 \mathrm{~V}$ AC minimum between contacts and case for 1 minute minimum
Mechanical Life: 500,000 operations minimum
Electrical Life: $\quad 50,000$ operations minimum for $3 \mathrm{~A} @ 125 \mathrm{~V} / 250 \mathrm{~V}$ AC \& 3A @ 30V DC
Nominal Operating Force: $\quad 1.5 \mathrm{~N}$ for Single Pole; 3.0N for Double Pole
Contact Timing: Nonshorting (break-before-make)
Travel: Total Travel . $118^{\prime \prime}$ (3.0mm)

## Materials \& Finishes

| Actuator: | Polycarbonate <br> Housing: <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 <br> Stationary Contacts: |
| Common terminal: Phosphor bronze with silver plating; <br> Contact terminals: Phosphor bronze with tin \& copper plating |  |
| Lamp Terminals: | Phospher bronze with tin and copper plating |

## Environmental Data

Operating Temperature Range:
$-10^{\circ} \mathrm{C}$ through $+50^{\circ} \mathrm{C}\left(+14^{\circ} \mathrm{F}\right.$ through $\left.+122^{\circ} \mathrm{F}\right)$ for illuminated
$-25^{\circ} \mathrm{C}$ through $+70^{\circ} \mathrm{C}\left(+13^{\circ} \mathrm{F}\right.$ through $\left.+158^{\circ} \mathrm{F}\right)$ for Nonilluminated
Humidity: $\quad 90 \sim 95 \%$ humidity for 240 hours @ $40^{\circ} \mathrm{C}\left(104^{\circ} \mathrm{F}\right)$
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: | 0.8 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 <br> Flammability Standards: UL94V-0 housing \& base

UL: File No. E44145-Recognized only when ordered with marking on switch.
Add "/U" or "/CUL" to end of part number to order UL recognized 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.

## Distinctive Characteristics

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" (14.0mm) 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.


Actual Size


## TYPICAL SWITCH ORDERING EXAMPLE



* Wire harness \& cable assemblies offered only in Americas

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE
LPO115CCKWO15CB


POLES \& CIRCUIT


## MOUNTING TYPES

 with a brass hexagon nut with nickel plating.

Recommended Panel Thickness: .079" ~ . $256^{\prime \prime}$ $(2.0 \mathrm{~mm} \sim 6.5 \mathrm{~mm})$


Allow .984" ( 25.0 mm ) distance from center-to-center between switches when mounted side-by-side.

## M

Snap-in
.669" (17.0mm) Diameter


Recommended Panel Thickness:
.039" ~ . $126^{\prime \prime}$
(1.0mm ~ 3.2 mm )


Allow. $827^{\prime \prime}$ ( 21.0 mm ) distance from center-to-center between switches when mounted side-by-side.

## HOUSING



## Black

Housing available in black only. The one-piece body and bezel have a matte finish.

## CONTACT MATERIALS, RATINGS, \& TERMINALS

## Silver <br> Power Level <br> 3A @ 125V AC/250V AC; 3A @ 30V DC

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



If used at la @ electrical life will be 100,000 operations minimum.

## 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 | Colors | $\begin{array}{\|c\|} \hline 5 \mathrm{C} \\ \text { Red } \end{array}$ | 5D <br> Amber | Green |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Forward Peak Current | $\mathrm{I}_{\text {FM }}$ | 30 mA | 30 mA | 30 mA |
|  | Typical Forward Current | $\mathrm{I}_{\mathrm{F}}$ | 20 mA | 20 mA | 20 mA |
|  | Forward Voltage | $V_{\text {F }}$ | 1.95 V | 2.0 V | 2.1 V |
|  | Reverse Peak Voltage | $V_{\text {RM }}$ | 5 V | 5 V | 5 V |
|  | Current Reduction Rate Above $25^{\circ} \mathrm{C}$ | $\Delta I_{F}$ | $0.41 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ | $0.29 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ | $0.39 \mathrm{~mA} /{ }^{\circ} \mathrm{C}$ |
|  | Ambient Temperature Range |  |  | $10^{\circ} \mathrm{C} \sim+50^{\circ} \mathrm{C}$ |  |

## No Code

## No Lamp

## Cap Color Available:

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


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

Nonilluminated Caps

## Cap Colors Available:

Black

Red

Green

The cap is an integral part of the switch and is not available separately.
Material: Polycarbonate Finish: Matte

## TYPICAL SWITCH DIMENSIONS

## Bushing Mount•Single Pole



## LP0115CCKW015CB

## Bushing Mount - Double Pole




LP0115CMKW015CB

Snap-in • Double Pole


## LEGENDS

NKK Switches can provide custom legends for caps. Contact factory for more information.

## Suggested Printable Area for LPOI Cap



## Recommended Methods:

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


Shaded area is printable area

