

# New Product

# CONTACT

No.108



## Series **LP01**

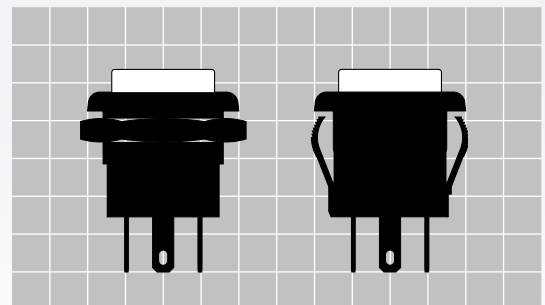
## Illuminated and Non-Illuminated Pushbutton Switches



Illuminated



Non-Illuminated



(Actual Size)

# Brilliant Illumination

**Illuminated and Non-Illuminated Pushbutton Switches**

# Series LP01

● **Crisp Actuation** ● **Meets RoHS Directives**

**Short Body and Long Stroke with Crisp Actuation**

Snap-action contact mechanism gives crisp actuation. Arc barrier on the movable contacts protects against cross over.

**UL & C-UL Recognition Pending**

**Two Mounting Options**

16mm diameter bushing mount and 17mm diameter snap-in mount available.

**Epoxy Sealed Terminals**

Epoxy sealed terminals prevent entry of flux and other contaminants and provide high contact reliability.

**Combination Solder Lug and (2.8mm) Quick Connect Terminals**

Terminals are combination of solder lug and (2.8mm) quick connect. When used as quick connect, JISC2809 connector can be used.

**Vandalproof Button**

Special construction prevents removal of cap.

**Dimpled Button**

Dimpled Button surface smoothly fits the finger tip. Translucent white button for illuminated type and red, green or black buttons for non-illuminated type.

**Bright LEDs**

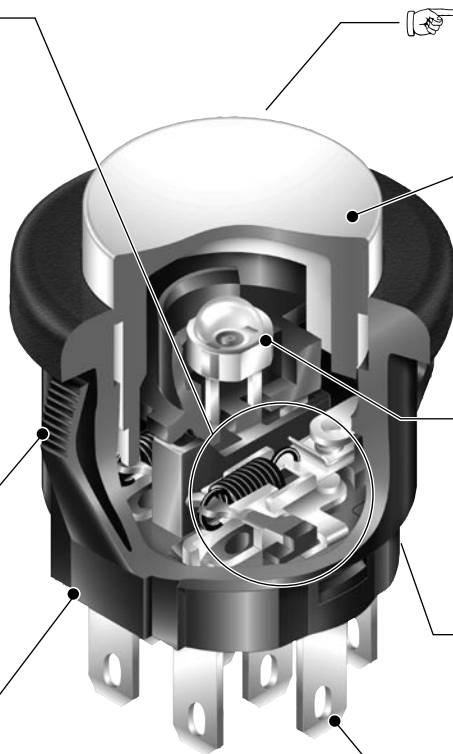
Bright LEDs in red, green and amber give highly visible status indication.

**Space Saving**

14mm short body saves space behind panel.

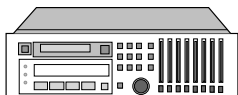
**Environmentally Friendly**

- Suited to lead-free solder processing applications because of heat resistant resin materials.
- Components and packaging materials meet RoHS Directive of March 31, 2004, restricting use of hazardous materials such as lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE.

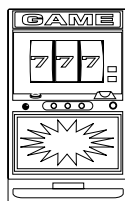


**▶ Applications**

Gaming equipment, Telecommunication, Electronic measurement, FA equipment, Office equipment, Medical equipment, System control board and more



Electronic Consumer Products



Gaming Equipment

**▶ Available**

October 29, 2004

## ► Specifications

Electrical Capacity	3A @ 125V AC    3A @ 250V AC    3A @ 30V DC
Contact Resistance	50 mΩ max. @ 2-4V DC 100mA
Insulation Resistance	200 MΩ min. @ 500 V DC
Dielectric Strength	1,000V AC between contacts for 1 minute min. 1,500V AC between contacts & case for 1 minute min.
Mechanical Life	500,000 operations min.
Electrical Life	50,000 operations min.
Operating Temp. Range	-10 through +50°C (Illuminated)    -25 through +70°C (Non-Illuminated)
Total Travel	3 mm
Nominal Operating Force	Single Pole: 1.5±0.7N    Double Pole: 3.0±1.2N
Soldering Time & Temperature	Manual:4 seconds max. @ 390°C max.
Note: Following specification of electrical capacity allows electrical life of 100,000 operation min., 1A 250V AC    1A 125V AC    1A 30V DC	

## ► LED Specifications

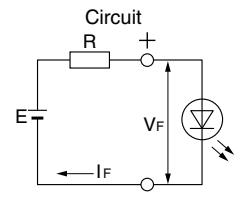
Bright LED					Ta = 25°C
LED is an integral part of the LP01 switch	Color	Single Color Illumination			Unit
		Green(F)	Red(C)	Amber(D)	
Forward Peak Current	I <sub>FM</sub>	30			mA
Continuous Forward Current	I <sub>F</sub>	20			mA
Forward Voltage	V <sub>F</sub>	2.1	1.95	2.0	V
Reverse Peak Voltage	V <sub>RM</sub>	5			V
Current Reduction Rate Above 25°C	ΔI <sub>F</sub>	0.39	0.41	0.29	mA / °C
Operating Temperature Range		-10 ~ +50°C			°C

### LED Circuit Ballast Resistance

To calculate the ballast resistance [R] of the LED circuit, substitute the forward voltage V<sub>F</sub> and recommended operating current I<sub>F</sub> of each LED's specifications into the following equation.

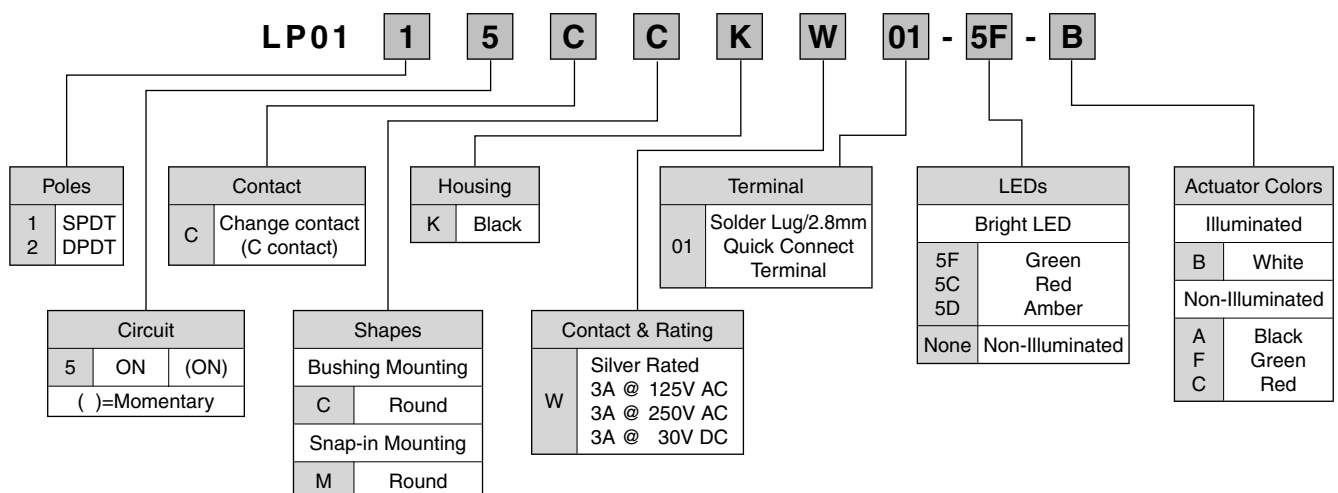
$$R = \frac{E - V_F}{I_F \text{ (recommended value)}}$$

where E = source voltage  
V<sub>F</sub> = forward voltage  
I<sub>F</sub> = recommended operating current  
R = ballast resistance



The wattage of resistor R should be twice to three times greater than usual with safe ambient operating temperature in mind.

## ► Structure of Part Number



## ► Illuminated and Non-Illuminated Pushbutton Switches

Pushbutton Position ( )=Momentary			Structure			Throw & Schematics	
Pole			Type	Bushing Mount	Snap-in Mount		
SPDT	ON	(ON)	Illuminated	<b>LP0115CCKW01-□-B</b>	<b>LP0115CMKW01-□-B</b>	COM. - N.C.	COM. - N.O.
DPDT	ON	(ON)	Illuminated	<b>LP0125CCKW01-□-B</b>	<b>LP0125CMKW01-□-B</b>	COM.1 - N.C.1 COM.2 - N.C.2	COM.1 - N.O.1 COM.2 - N.O.2
Symbol in □ : 5F (Green), 5C (Red), 5D(Amber),							
SPDT	ON	(ON)	Non-Illuminated	<b>LP0115CCKW01-□</b>	<b>LP0115CMKW01-□</b>	COM. - N.C.	COM. - N.O.
DPDT	ON	(ON)	Non-Illuminated	<b>LP0125CCKW01-□</b>	<b>LP0125CMKW01-□</b>	COM.1 - N.C.1 COM.2 - N.C.2	COM.1 - N.O.1 COM.2 - N.O.2
Symbol in □ : A(Black), F (Green), C (Red)							

	SPDT		DPDT		SPDT		DPDT		Terminal numbers
	Bushing Mounting								COM Marking Side
	SPDT		DPDT		SPDT		DPDT		Terminal numbers
	SPDT	DPDT						COM Marking Side	

► Non-Illuminated models do not have lamp terminals.

## ► Shapes & Panel Cutouts

Bushing Mount	Snap-In Mount
Recommended Panel Thickness: 2.0mm ~ 6.5mm	Recommended Panel Thickness: 1.0mm ~ 3.2mm

\*When switches are mounted side-by-side allow 25mm space between switches and consider dimensions of mounting device or other products.

\*Insert switch plumb from the front of the panel.

\* Note that the specifications are subject to change without notice. For the latest specifications, contact our persons in charge.

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