

# General Specifications

## Electrical Capacity (Resistive Load)

Low/Logic Level: 50mA @ 24V DC

## Other Ratings

|                                 |                                      |
|---------------------------------|--------------------------------------|
| <b>Contact Resistance:</b>      | 50 milliohms maximum                 |
| <b>Insulation Resistance:</b>   | 500 megohms minimum @ 250V DC        |
| <b>Dielectric Strength:</b>     | 250V AC minimum for 1 minute minimum |
| <b>Mechanical Life:</b>         | 1,000,000 operations minimum         |
| <b>Electrical Life:</b>         | 1,000,000 operations minimum         |
| <b>Nominal Operating Force:</b> | 3.0N                                 |
| <b>Total Travel:</b>            | .030" (0.75mm)                       |

## Materials & Finishes

|                             |                                                         |
|-----------------------------|---------------------------------------------------------|
| <b>Actuator:</b>            | Polycarbonate                                           |
| <b>Case:</b>                | Glass fiber reinforced polyamide                        |
| <b>Base:</b>                | Glass fiber reinforced polybutylene terephthalate (PBT) |
| <b>Movable Contact:</b>     | Stainless steel                                         |
| <b>Stationary Contacts:</b> | Brass with silver plating                               |
| <b>Switch Terminals:</b>    | Brass with silver plating                               |
| <b>Lamp Terminals:</b>      | Brass with tin plating                                  |

## Environmental Data

|                                     |                                                                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature Range:</b> | -25°C through +50°C (-13°F through +122°F)                                                                                                   |
| <b>Humidity:</b>                    | 90 ~ 95% humidity for 240 hours @ 40°C (104°F)                                                                                               |
| <b>Vibration:</b>                   | 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours |
| <b>Shock:</b>                       | 50G (490m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)                               |

## PCB Processing

|                   |                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Soldering:</b> | Wave Soldering: See Profile A in Supplement section.<br>Manual Soldering: See Profile A in Supplement section. |
| <b>Cleaning:</b>  | These devices are not process sealed. Hand clean locally using alcohol based solution.                         |

## Standards & Certifications

The JL Series tactiles have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current circuit. When used as intended, the results do not produce hazardous energy.

# Distinctive Characteristics

Bright, full face illumination with choice of red, green, or amber LEDs.

Multiple LED arrays and interior reflectors enhance illumination of the large, .75" (19mm) square actuator surface.

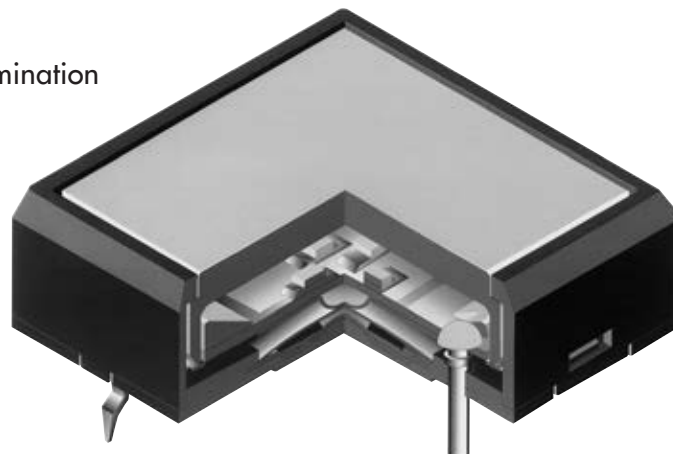
Distinctive design allows full face illumination in extra low profile of 0.31" (7.85mm) from PCB to top of switch.

Dome contact gives crisp tactile and audible feedback with short stroke and assures high reliability and long life of 1,000,000 operations.

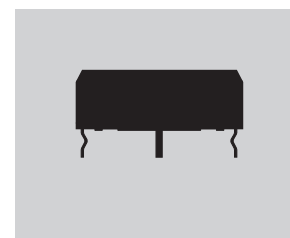
Crimped terminals provide a spring type action to ensure secure mounting and prevent dislodging during the soldering process.

Streamlined housing dimensions provide for compact, side-by-side mounting on a standard grid.

Terminal spacing conforms to standard .100" (2.54mm) PCB grid.

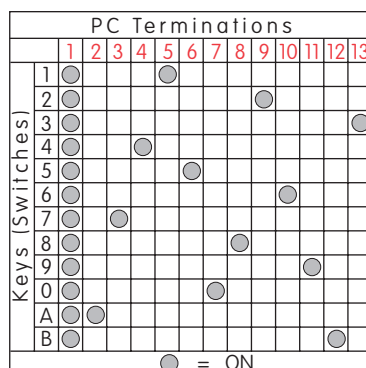
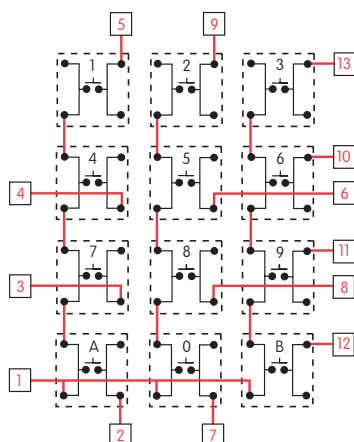


Actual Size



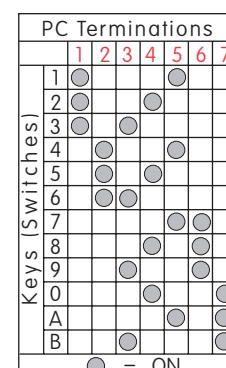
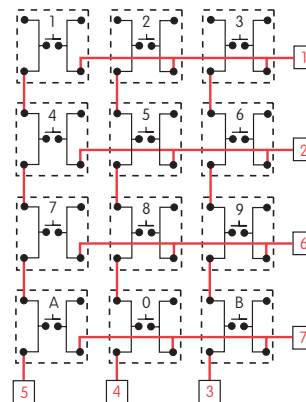
## Common Bus Matrix

These single pole, single throw switches can be used in a keyboard matrix and, using strapped terminals, achieve a common bus electrical configuration on a single-sided PC board.



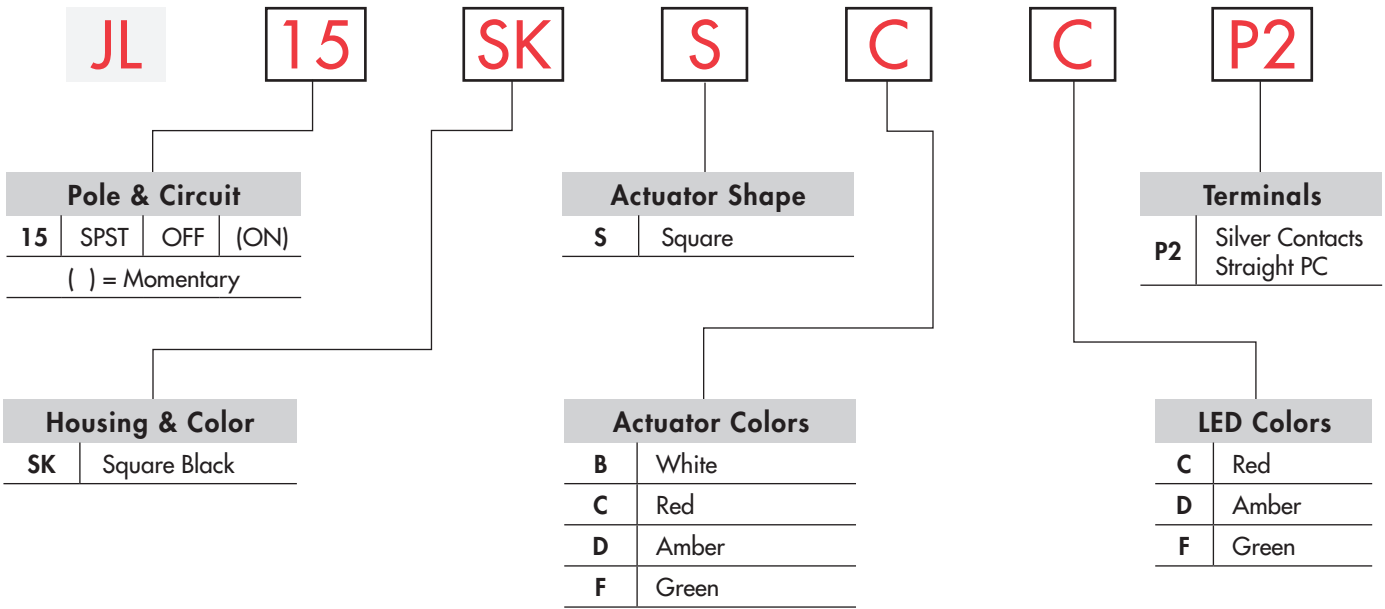
## X-Y Matrix

These single pole, single throw switches can be arranged on a single-sided PC board matrix with strapped terminals to achieve an X-Y type electrical interconnection.



Red = PCB Trace    Black = Switch Circuit

TYPICAL SWITCH ORDERING EXAMPLE



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

JL15SKSCCP2

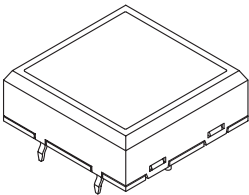


POLE & CIRCUIT

|      |       | Actuator Position<br>( ) = Momentary |      | Switch Throw<br>& Schematic | LED Schematic | Note: Terminal markings "1", "1a", "-", and "+" are shown on the switch. |
|------|-------|--------------------------------------|------|-----------------------------|---------------|--------------------------------------------------------------------------|
| Pole | Model | Normal                               | Down |                             |               |                                                                          |
| SP   | JL15  | OFF                                  | (ON) | SPST<br>                    |               |                                                                          |

HOUSING & COLOR

**SK** Square Black Housing



ACTUATOR SHAPE & COLORS

**S** .748" (19.0mm) Square Actuator

Actuator Colors Available:

**B** White   **C** Red   **D** Amber   **F** Green

LED COLORS & SPECIFICATIONS

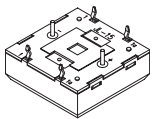
LEDs are an integral part of the switch. The electrical specifications shown are determined at a basic temperature of 25°C. If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula in the Supplement.

|                                                                                            |  |                                                      |              |               |                |                |
|--------------------------------------------------------------------------------------------|--|------------------------------------------------------|--------------|---------------|----------------|----------------|
| <div>Red LED model has 6 LEDs.</div> <div>Amber &amp; Green models each have 8 LEDs.</div> |  | 1-color, 1-element LEDs grouped in arrays of 6 or 8. | Color        | <b>C</b> Red  | <b>D</b> Amber | <b>F</b> Green |
|                                                                                            |  | Maximum Forward Current                              | $I_{FM}$     | 90mA          | 120mA          | 120mA          |
|                                                                                            |  | Typical Forward Current                              | $I_F$        | 60mA          | 80mA           | 80mA           |
|                                                                                            |  | Forward Voltage                                      | $V_F$        | 3.9V          | 4.0V           | 4.2V           |
|                                                                                            |  | Maximum Reverse Voltage                              | $V_{RM}$     | 10V           | 10V            | 10V            |
|                                                                                            |  | Current Reduction Rate Above 25°C                    | $\Delta I_F$ | 1.2mA/°C      | 1.6mA/°C       | 1.6mA/°C       |
|                                                                                            |  | Ambient Temperature Range                            |              | -25°C ~ +50°C |                |                |

TERMINALS

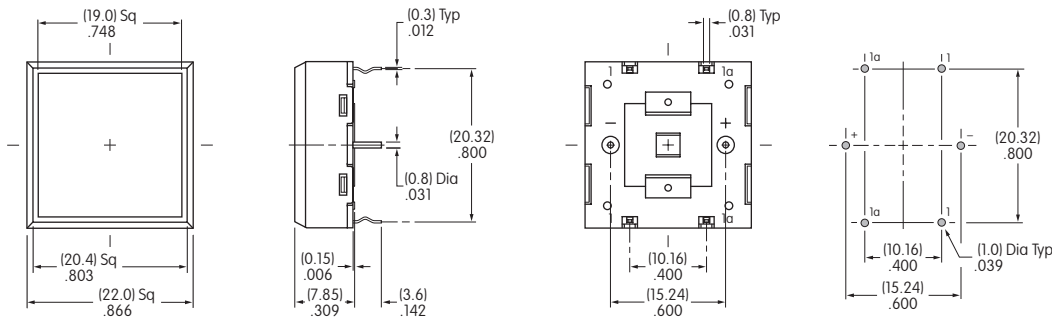
**P2** Silver Contacts  
Straight PC

Additional details in  
Typical Switch Dimensions



TYPICAL SWITCH DIMENSIONS

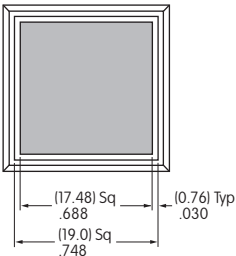
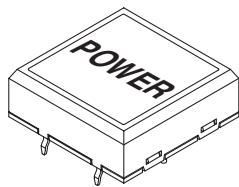
Square Actuator



JL15KSCCP2

LEGENDS

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



Shaded area is printable area.

Recommended Print Methods:

Screen Print or Pad Print.

Epoxy based ink  
is recommended.

Additional Method

Engraving is not recommended as  
an additional method for legends.

Contact factory if engraving is  
required; it must be done before  
the actuator is assembled.

# Mouser Electronics

Authorized Distributor

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## NKK Switches:

[JL15SKSFFP2](#) [JL15SKSBFP2](#) [JL15SKSCCP2](#) [JL15SKSDDP2](#) [JL15SKSBDP2](#) [JL15SKSBCP2](#)

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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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## JONHON

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