Distinctive Characteristics

Special bracket for right angle mounting provides added design variations.

Higher operating force type provides more pronounced operating feel.

Rubber seal construction prevents contact contamination and allows automated soldering and cleaning.

JB15FP model meets IP67 of IEC60529 specifications (similar to NEMA 4 & 13).

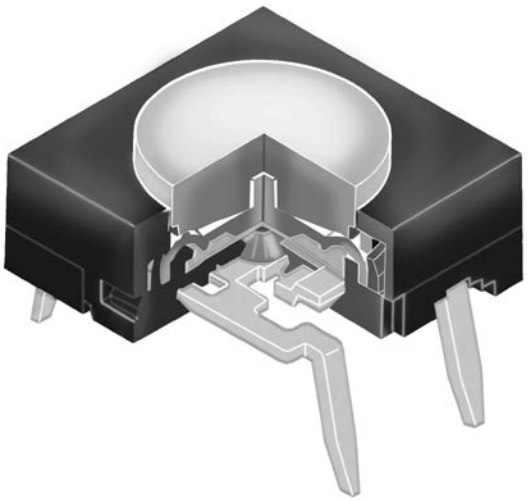
Choice of dimensions from PCB to top of cap allows design flexibility.

Dome contact gives crisp tactile feedback to positively indicate circuit transfer and assures high reliability and long life of up to 5,000,000 operations.

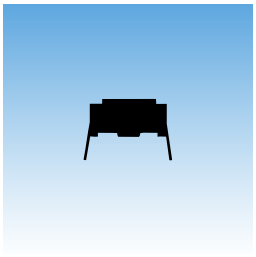
Slanted terminals provide a spring type action which ensures secure mounting and prevents dislodging during wave soldering.

Molded-in terminals are part of the sealed construction which allows automated soldering and washing.

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

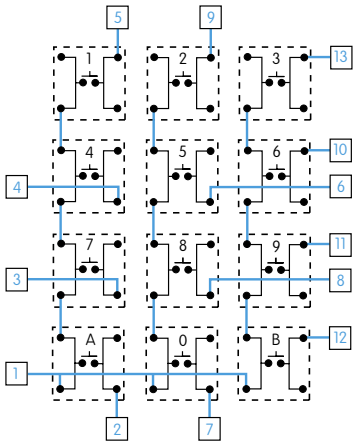


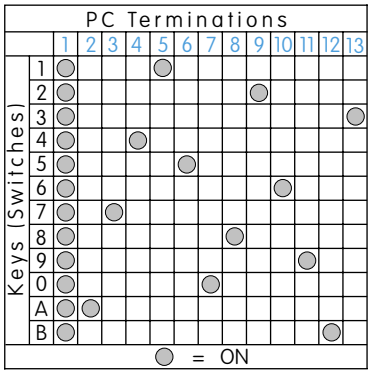
Actual Size



KEYBOARD MATRIX

Common Bus Matrix

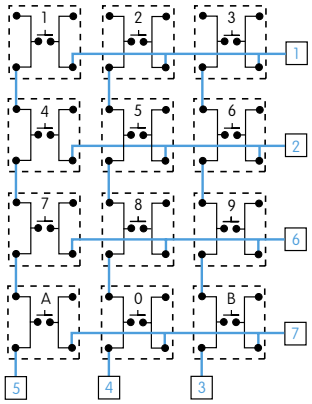


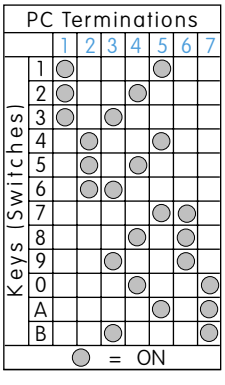


Blue = PCB Trace, Black = Switch Circuit

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





Blue = PCB Trace, Black = Switch Circuit

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.

General Specifications

Electrical Capacity (Resistive Load)

Low Level: 50mA @ 24V DC maximum for Standard Operating Force models
125mA @ 24V DC maximum for High Operating Force models

Other Ratings

	Standard Operating Force	High Operating Force
Contact Resistance:	50 milliohms maximum	50 milliohms maximum
Insulation Resistance:	500 megohms minimum @ 250V DC	500 megohms minimum @ 250V DC
Dielectric Strength:	250V AC minimum for 1 minute minimum	250V AC minimum for 1 minute minimum
Mechanical Life:	5,000,000 operations minimum	1,000,000 operations minimum
Electrical Life:	5,000,000 operations minimum	1,000,000 operations minimum
Nominal Operating Force:	1.76N for JB15	2.65N for JB15H
Total Travel:	.010" (.250mm)	.012" (.300mm)

Materials & Finishes

Actuator: Glass fiber reinforced PBT for Extended actuator; PBT for Flat; Polyacetal for Short
Case: Glass fiber reinforced polyamide (UL94V-0)
Seal: Nitrile butadiene rubber
Base: Glass fiber reinforced PBT (UL94V-0)
Movable Contacts: Beryllium copper with silver plating
Stationary Contacts: Brass with silver plating
Terminals: Brass with silver plating
Mounting Bracket: Phosphor bronze with tin plating

Environmental Data

Operating Temperature Range: –25°C through +70°C (–13°F through +158°F)
Humidity: 90 ~ 95% humidity for 240 hours @ 40°C (104°F)
Vibration: 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
Shock: 50G (490m/s2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
Sealing: IP67 of IEC60529 standard (similar to NEMA 4 & 13)

PCB Processing

Soldering: Wave Soldering Recommended. See Profile A in Supplement section.
Manual Soldering: See Profile A in Supplement section.
Cleaning: Automated cleaning. See Cleaning specifications in Supplement section.

Standards & Certifications

Flammability Standards: UL94V-0 rated case & base
UL Recognition or CSA Certification: The JB Series tactiles have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

TYPICAL SWITCH ORDERING EXAMPLE

JB | 15 | ☐ | F | P | — | ☐ | ☐

POLE & CIRCUIT

15	SPST	OFF	(ON)

( ) = Momentary

OPERATING FORCE

No Code	Standard for Actuators F & K
H	High for Actuators F, K & A

ACTUATORS

F	Flat Blue Button
K	Short
A	Extended (H operating force only; not for Right Angle)

TERMINALS

P	Straight PC
H	Right Angle PC

SNAP-ON CAPS

For Straight & Right Angle PC

No Code	No Cap for F Actuator

For Straight PC

1	Sculptured
2	Flat
4	Framed
5	Cap with Black Mounter

For Right Angle PC

6	Flat

CAP COLORS

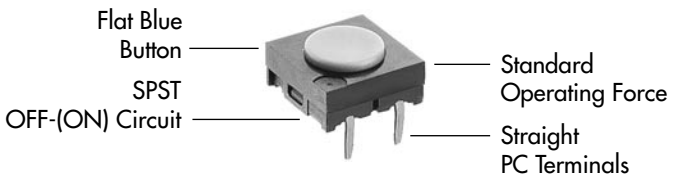
A	Black
B	White
C	Red
E	Yellow
F	Green
G	Blue
H	Gray

For Framed:

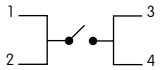
Button		Frame
B	White	B
C	Red	C
E	Yellow	E
F	Green	F
G	Blue	G
H	Gray	H

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

JB15FP



POLE & CIRCUIT

Pole	Model	Actuator Position ( ) = Momentary: Normal	Actuator Position ( ) = Momentary: Down	Switch Throw & Schematic	
				SPST 	Note: Terminal numbers are shown on the switch.
SP	JB15	OFF	(ON)		

OPERATING FORCE

No Code **Standard Operating Force**
1.76N

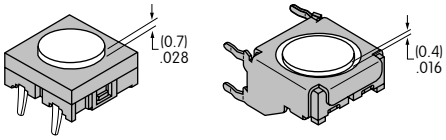
For F & K Actuators

H **High Operating Force**
2.65N

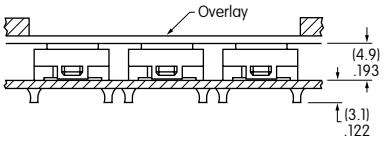
For F, K & A Actuators

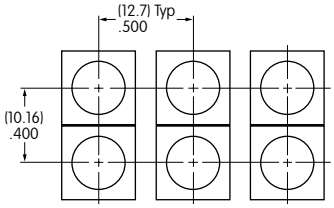
ACTUATORS

F Flat Blue Button



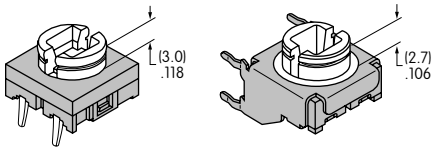
Flat button is an integral part of the switch and cannot be ordered separately.

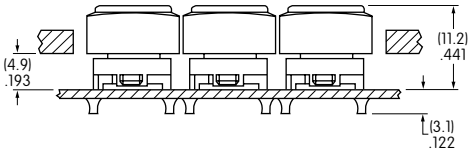


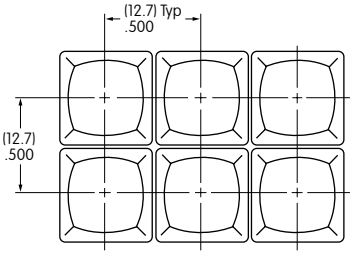


Custom keyboards can be designed with flat buttons beneath an overlay. Not applicable for right angle mounting.

K Short Actuator

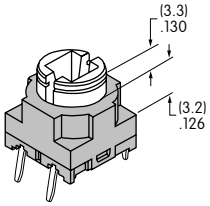




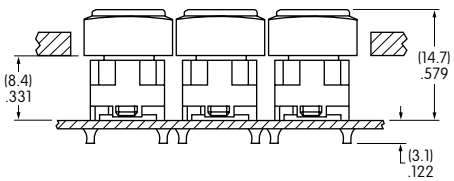


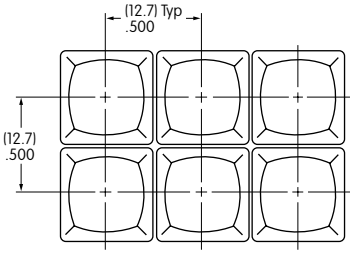
Custom keyboards can be designed with caps installed through a panel cutout (illustration with framed cap AT4078 and button AT4077). Not applicable for right angle mounting.

A Extended Actuator



Combines with high operating force only; not for right angle.

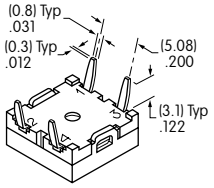


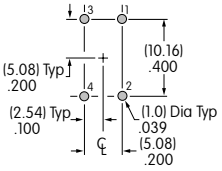


Custom keyboards can be designed with caps installed through a panel cutout (illustration with framed cap AT4078 and button AT4077).

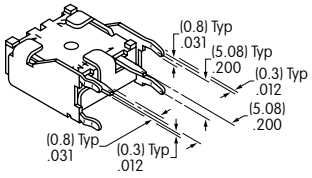
TERMINALS

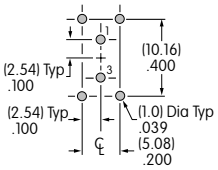
P Straight PC





H Right Angle PC



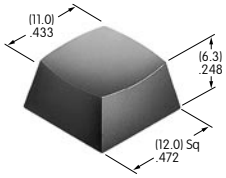


Further details shown in Typical Switch Dimensions

SNAP-ON CAPS

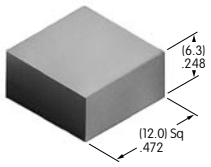
1 AT4058 Sculptured for Straight PC

Material: Polyamide
Finish: Matte
Colors: A B C E F G H



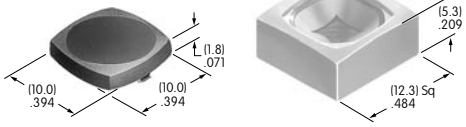
2 AT4059 Flat for Straight PC

Material: Polycarbonate
Finish: Glossy
Colors: A B C E F G H



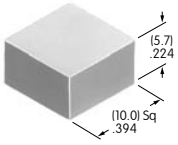
4 Framed: AT4077 Button & AT4078 Frame for Straight PC

Material: Polycarbonate
Finish: Matte
Colors: B C E F G H



6 AT4139 Flat for Right Angle PC

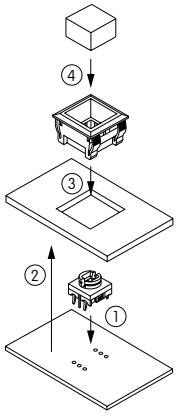
Material: Polycarbonate
Finish: Glossy
Colors: A B C H



5 AT4140 Cap with AT547 Mounter for Straight PC

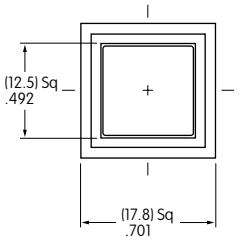
Cap
Material: Polycarbonate
Finish: Glossy
Colors: A B C H

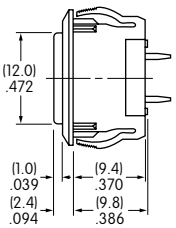
Mounter
Material: Polyamide
Finish: Matte
Color: A



Assembly Procedure

1. Solder switch to PCB.
2. Install PCB in equipment.
3. Snap mounter into panel. Dimension from top of panel to top of PCB is .386″ (9.8mm).
4. Snap cap onto plunger.

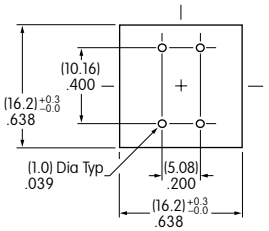




Panel Mounting Dimensions

Panel Thickness:
.039″ ~ .079″
(1.0mm ~ 2.0mm)

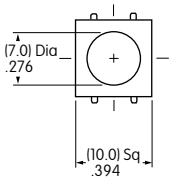
Panel Cutout & Footprint

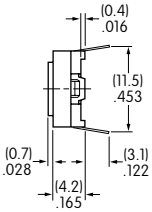


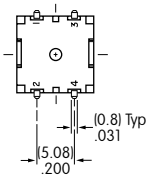
Cap Colors Available: A Black · B White · C Red · E Yellow · F Green · G Blue · H Gray

TYPICAL SWITCH DIMENSIONS

Flat Blue Button • Straight PC





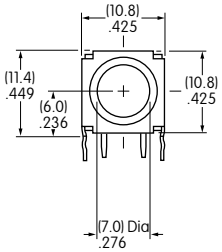


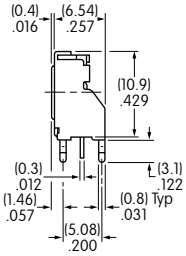
JB15FP

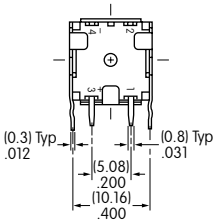
Spring action terminals conform to .100" (2.54mm) PCB spacing

Flat Blue Button • Right Angle PC

JB15FH



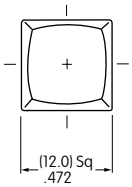


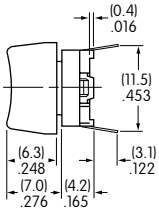


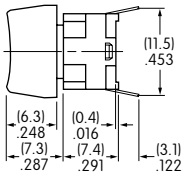
Sculptured Snap-on Cap • Straight PC

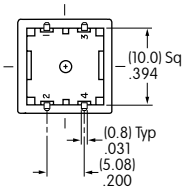
Short Actuator

Extended Actuator









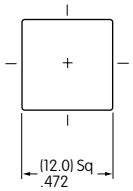
JB15KP-1C

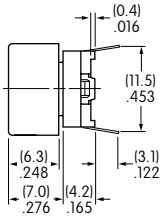
Spring action terminals conform to .100" (2.54mm) PCB spacing

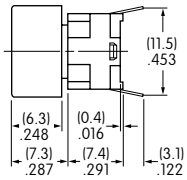
Flat Snap-on Cap • Straight PC

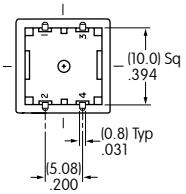
Short Actuator

Extended Actuator









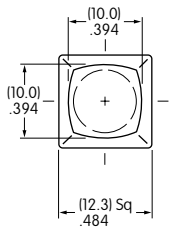
JB15KP-2C

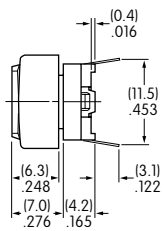
Spring action terminals conform to .100" (2.54mm) PCB spacing

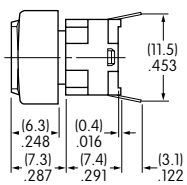
Framed Snap-on Cap • Straight PC

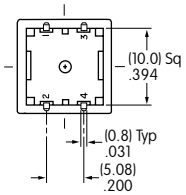
Short Actuator

Extended Actuator









JB15FHAP-4BC

Spring action terminals conform to .100" (2.54mm) PCB spacing