General Specifications

Electrical Capacity (Resistive Load)

Low/Logic Level: 50mA @ 24V DC maximum

Other Ratings

Contact Resistance: 100 milliohms maximum
Insulation Resistance: 100 megohms minimum @ 250V DC
Dielectric Strength: 250V AC minimum between contacts & between contacts & case for 1 minute minimum
Mechanical Life: 100,000 operations minimum
Electrical Life: 100,000 operations minimum
Nominal Operating Force: 1.57N
Total Travel: .010" (.250mm)

Materials & Finishes

Actuator: Glass fiber reinforced polyamide (UL94V-0)
Case: Stainless steel
Seal: Polytetrafluoroethylene
Base: Polyphthalamide (UL94V-0)
Movable Contacts: Beryllium copper with silver plating
Stationary Contacts: Brass with silver plating
Terminals: Brass with silver plating

Environmental Data

Operating Temperature Range: –25°C through +70°C (–13°F through +158°F)
Humidity: 90 ~ 95% humidity for 96 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/s^2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Processing

Soldering: Reflow 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

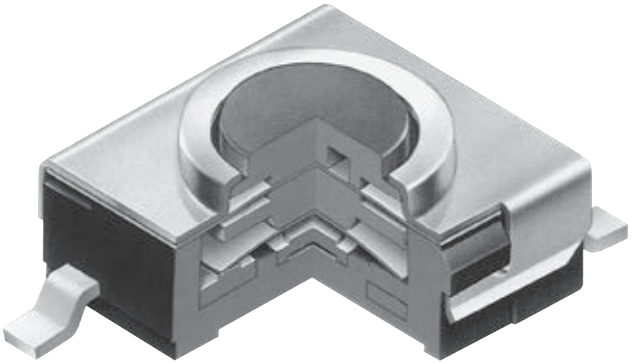
Flammability Standards: UL94V-0 actuator & base
The CB3 Series tactiles have not been tested for UL recognition or CSA certification.
These switches are designed for use in a low-voltage, low-current, logic-level circuit.
When used as intended in a logic-level circuit, the results do not produce hazardous energy.

Distinctive Characteristics

Sealed construction prevents contact contamination and allows automated soldering and cleaning.

.244" (6.2mm) square body allows compact mounting.

Heat tolerant resin used for actuator and base meets UL flammability rating of 94V-0 and maintains switch reliability through vapor phase and infrared convection reflow soldering.



Dome contact gives crisp tactile feedback to positively indicate circuit transfer and assures high reliability and long life – more than 100,000 operations.

Gull-winged terminals ensure mechanical stability during soldering and simplify solder joint inspection.

Insert molded terminals lock out flux, solvents, and other contaminants.

Packaged in tape-reel or partitioned tray. Tape-reel packaging meets EIA-481-D Standard.

Coplanarity: all considered surfaces must lie between two parallel planes that are a maximum distance apart of .0059" (0.15mm). (Additional coplanarity details in Terms and Acronyms in the Supplement section.)

Actual Size

TYPICAL SWITCH ORDERING EXAMPLE

CB3 | 15 | F | P | — | ☐

Pole & Circuit

15	SPST	OFF	(ON)

( ) = Momentary

Actuator

F	Flat Button

Terminals

P	Gull Wing for Upright Mount

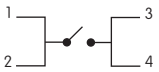
Packaging

R	Tape-Reel 1,000 Pieces/Reel
No Code	Partitioned Tray

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

CB315FP

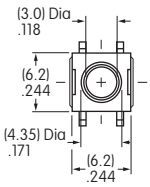
POLE & CIRCUIT

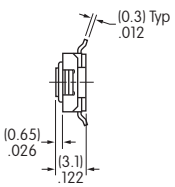
		Actuator Position ( ) = Momentary		Switch Throw & Schematic	
Pole	**Model**	**Normal**	**Down**		
SP	**CB315**	OFF	(ON)	SPST 	Note: Terminal numbers are not actually on switch.

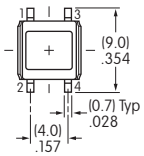
TYPICAL SWITCH DIMENSIONS

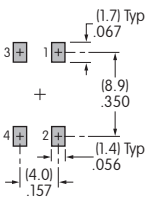
Single Pole • Single Throw

CB315FP







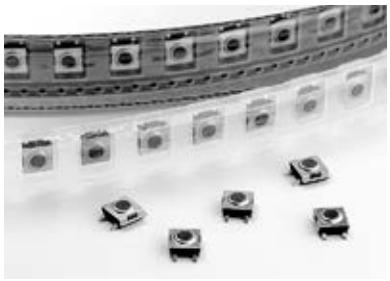


PACKAGING

R **Tape-Reel** (packaged to EIA-481-D standard)

Switches must be ordered in 1,000-piece increments when tape-reel packaging is selected.

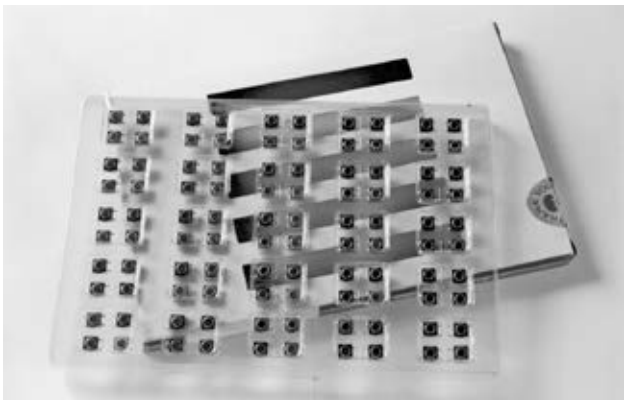
Note: Possible deformation of the Tape-Reel may occur when environmental temperature exceeds 50°C (122°F).
It is recommended to store the product on a flat surface within normal temperature and humidity ranges.



Temperature range: 5° ~ 35°C (41° ~ 95°F). Relative humidity range: 45 ~ 85%. The maximum stacking limit is 10 when storing the products.

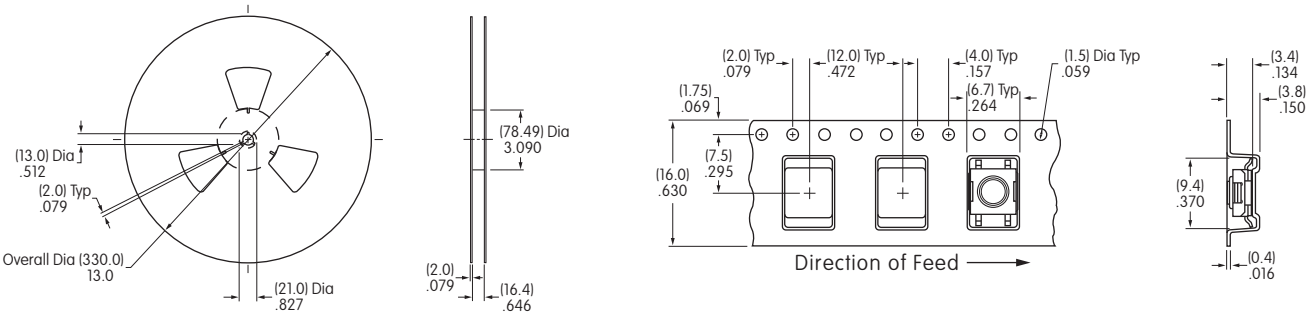
No Code **Partitioned Tray**

If less than 1,000 pieces are ordered, the switches are packaged in a partitioned tray.
No code is required.



Tape-Reel Dimensions & Specifications

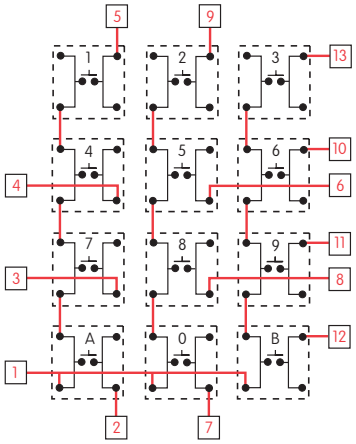
Each tape-reel of 1,050 pockets contains 1,000 switches
Minimum Leader Length: 16.54" (420mm) Minimum Trailer Length: 7.09" (180mm)



KEYBOARD MATRIX

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.

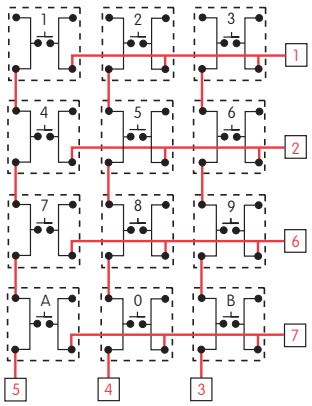


Keys (Switches)	PC Terminations 1	2	3	4	5	6	7	8	9	10	11	12	13
1					●								
2								●					
3													●
4				●									
5						●							
6										●			
7			●										
8								●					
9											●		
0									●				
A	●												
B													●

● = ON

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.



Keys (Switches)	PC Terminations 1	2	3	4	5	6	7
1					●		
2	●					●	
3	●		●				
4		●			●		
5		●		●			
6		●	●				
7					●	●	
8				●		●	
9			●			●	
0				●			●
A					●		●
B			●				●

● = ON

Red = PCB Trace Black = Switch Circuit