Distinctive Characteristics

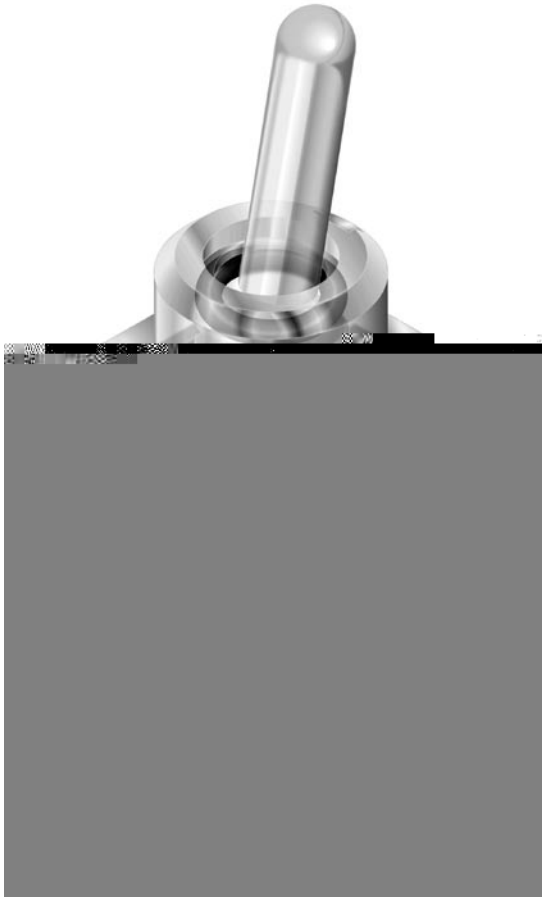
LED provides maximum illumination to bushing and actuator, indicating actuator status in highly visible green, red, or amber for single color or red/green for bicolor. (Patent pending.)

Totally sealed body construction prevents contact contamination and allows time- and money-saving automated soldering and cleaning. Molded-in, epoxy sealed terminals lock out flux and other contaminants.

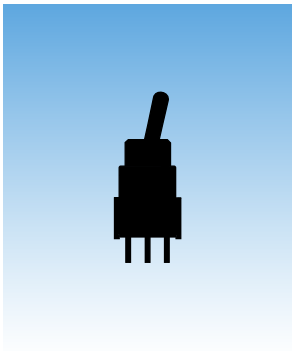
Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smoother, positive detent actuation, increased contact stability, and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing.

Nonilluminated toggles available and shown in the Toggle section.



Actual Size



General Specifications

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Note: Find additional explanation of operating range in Supplement section.

Other Ratings

Contact Resistance: 50 milliohms maximum
Insulation Resistance: 500 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum for 1 minute minimum
Mechanical Life: 100,000 operations minimum
Electrical Life: 50,000 operations minimum
Nominal Operating Force: 1.18N
Contact Timing: Nonshorting (break-before-make)
Angle of Throw: 26°

Materials & Finishes

Actuator: Polyamide
Bushing Housing: Polyamide
Case Housing: Glass fiber reinforced polyamide
Support Bracket: Phosphor bronze with tin plating
Movable Contact: Phosphor bronze with gold plating
Stationary Contacts: Brass with tin plating
Terminals: Brass with gold plating

Environmental Data

Operating Temperature Range: –25°C through +55°C (–13°F through +131°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 5 minutes; 3 right angled directions for 2 hours
Shock: 50G (490m/s^2) acceleration (tested in 3 right angled directions, with 5 shocks in each direction)

PCB Processing

Soldering: Wave Soldering recommended. See Profile A in Supplement section.
Manual Soldering: See Profile A in Supplement section.
Cleaning: Automated alcohol based cleaning recommended, 5 minutes maximum. Do not use high-purity alcohol (50% alcohol or more) or organic solvent. High alcohol solution can damage clear plastic. See Cleaning specifications in Supplement section.

Standards & Certifications

UL Recognition or CSA Certification: The B Series illuminated toggles 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

B	1	2	J	J	P	C

POLES

1	SPDT

CIRCUITS

2	ON	NONE	ON

Combines with single color or bicolor LEDs

3	ON	OFF	ON

Combines with bicolor LED only

ACTUATOR

J	Clear

BUSHING

J	Clear

PC TERMINALS

P	Straight
H	Right Angle
V	Vertical

LEDS

Single Color	
C	Red
D	Amber
F	Green

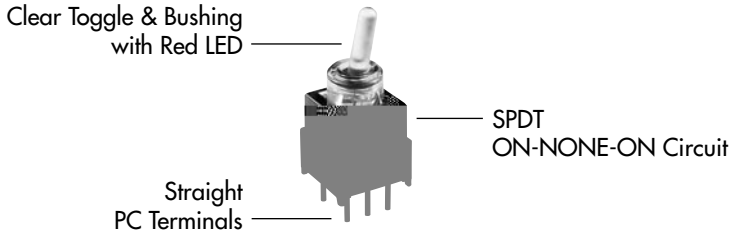
ON-NONE-ON only

Bicolor	
CF	Red/Green

ON-NONE-ON & ON-OFF-ON

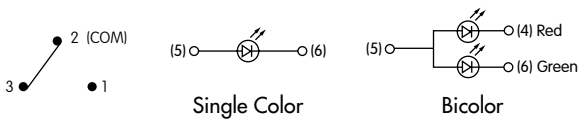
DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

B12JJPC



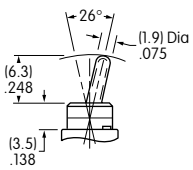
POLE & CIRCUITS

		Toggle Position			Connected Terminals			Throw & Schematics
Pole Throw	Model	Up	Center	Down	Up	Center	Down	Note: Terminal numbers are not actually on the switch. LED circuit is isolated and requires an external power source.
SPDT	B12	ON	NONE	ON	2-3	NONE	2-1	
	B13	ON	OFF	ON	2-3	OPEN	2-1	



ACTUATOR & BUSHING

J **Clear Toggle**



J **Clear Bushing**

LED COLORS & SPECIFICATIONS

LEDs are an integral part of the switch and not available separately. 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 section.

		Single Color			Bicolor
		C Red	D Amber	F Green	CF Red/Green
Forward Peak Current	I_{FM}	30mA	30mA	20mA	30mA/20mA
Continuous Forward Current	I_F	20mA	20mA	10mA	20mA/10mA
Forward Voltage	V_F	1.9V	1.9V	3.4V	1.9V/3.4V
Reverse Peak Voltage	V_{RM}	5V	5V	5V	5V/5V
Current Reduction Rate Above 25°C	ΔI_F	0.43mA/°C		0.28mA/°C	0.43mA/°C/0.28mA/°C
Ambient Temperature Range		−25°C ~ +55°C			

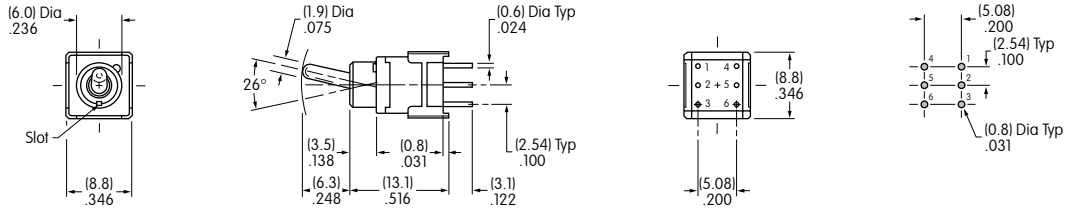
PC TERMINALS

P Straight

H Right Angle with Bracket

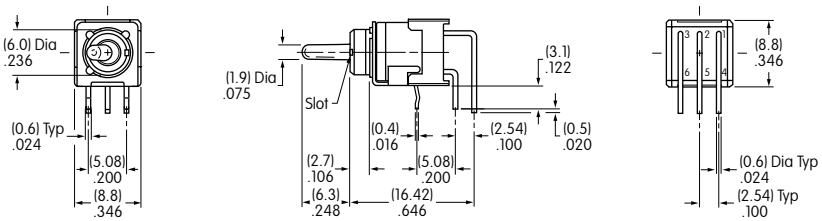
V Vertical with Bracket

TYPICAL SWITCH DIMENSIONS



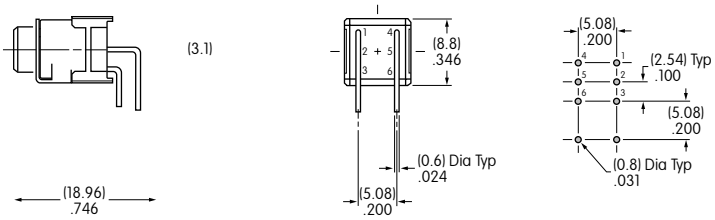
B12JJPC

Terminal 4 is a support pin on single color models.



B13JJHCF

Terminal 4 is a support pin on single color models.



B13JJVCF

Terminal 4 is a support pin on single color models.