

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: 80 milliohms maximum
Insulation Resistance: 500 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum for 1 minute minimum
Mechanical Life: 50,000 operations minimum
Electrical Life: 50,000 operations minimum
Nominal Operating Force: 1.70N
Travel: Pretravel .035" (0.9mm); Overtravel .008" (0.2mm); Total Travel .043" (1.1mm)

Materials & Finishes

Plunger: Polyamide
Case: Glass fiber reinforced polyamide
Sealing Rings: Nitrile butadiene rubber
Movable Contact: Phosphor bronze with gold plating
Stationary Contacts: Phosphor bronze with gold plating
Base: Glass fiber reinforced polyamide
Switch Terminals: Phosphor bronze with gold plating
Lamp Terminals: Phosphor bronze 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 ~ 500Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 15 minutes; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 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

The GB Series illuminated pushbuttons 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

Fully illuminated plunger for highly visible status indication with single color LED in red, green, or amber.

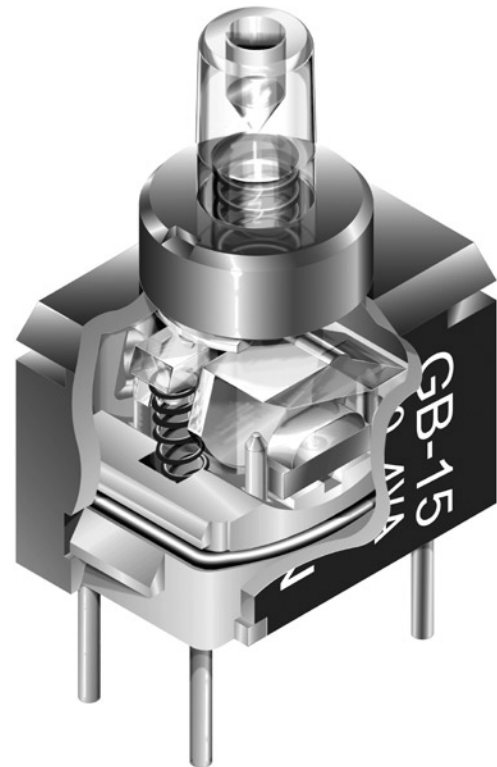
Ultra-miniature size allows high density mounting, and extremely light weight makes these switches ideal for handheld equipment.

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

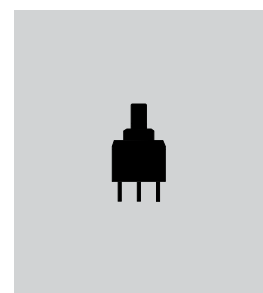
Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smooth, positive detent actuation, increased contact stability, and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing. Round terminals facilitate easier through-hole mounting on PC boards.

Nonilluminated pushbuttons available and shown in the Pushbutton section.



Actual Size

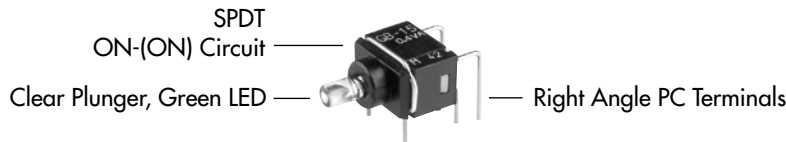


TYPICAL SWITCH ORDERING EXAMPLE

| | | | | | | |
|-------------|----------------------------------|----------|-----------------------------------|----------|---|--|
| GB | 1 | 5 | J | H | F | |
| Pole | Circuit | | Actuator | | PC Terminals | |
| 1 SPDT | 5 ON (ON) () = Momentary | | J Clear | | P Straight H Right Angle V Vertical | |
| | | | LEDs | | | |
| | | | C Red D Amber F Green | | | |

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

GB15JHF

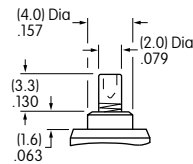


POLE & CIRCUIT

| Pole | Model | Plunger Position () = Momentary | | Connected Terminals | | Throw & Switch/Lamp Schematics |
|------|-------|-------------------------------------|------|---------------------|------|---|
| | | Normal | Down | Normal | Down | |
| SP | GB15 | ON | (ON) | 5-6 | 5-4 | Note: Terminal numbers are not actually on the switch. LED circuit is isolated and requires an external power source. |
| | | | | | | SPDT |

ACTUATOR

J Clear Plunger



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.

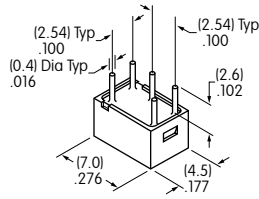
The resistor value can be calculated by using the formula in the Supplement section.

| | | C | D | F |
|-----------------------------------|--------------|--------------|-----------|-----------|
| | Colors | Red | Amber | Green |
| Forward Peak Current | I_{FM} | 30mA | 30mA | 25mA |
| Continuous Forward Current | I_F | 20mA | 20mA | 20mA |
| Forward Voltage | V_F | 1.9V | 1.9V | 2.1V |
| Reverse Peak Voltage | V_{RM} | 5V | 5V | 5V |
| Current Reduction Rate Above 25°C | ΔI_F | 0.43mA/°C | 0.43mA/°C | 0.36mA/°C |
| Ambient Temperature Range | | -25° ~ +55°C | | |

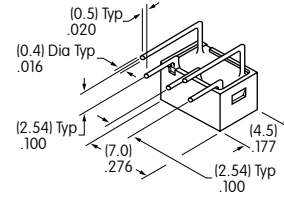
PC TERMINALS



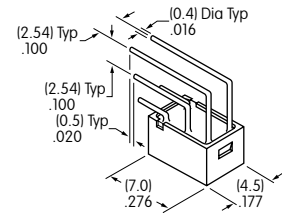
Straight



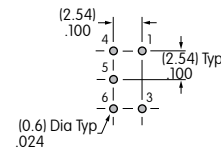
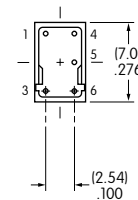
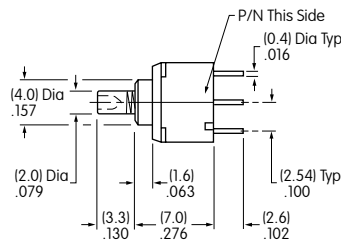
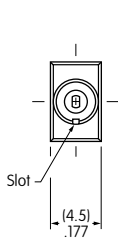
Right Angle



Vertical



TYPICAL SWITCH DIMENSIONS



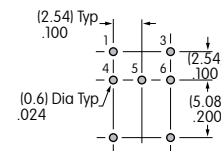
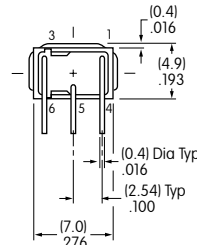
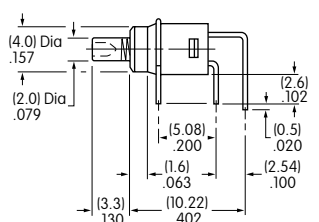
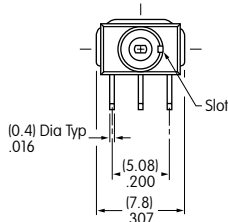
Straight PC



Terminals 1 & 3 are lamp terminals.

GB15JPD

Right Angle PC

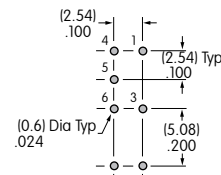
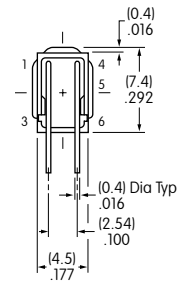
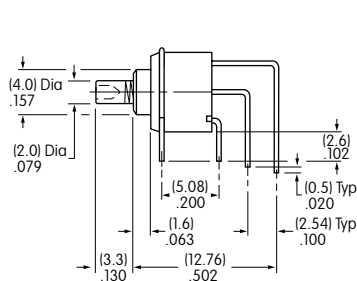
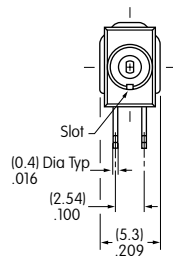


Terminals 1 & 3 are lamp terminals.

GB15JHF



Vertical PC



Terminals 1 & 3 are lamp terminals.

GB15JVC

