Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

General Specifications

Toggles

Rockers

Pushbuttons

Illuminated PB

D

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

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/s^2) 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.

NKK
SWITCHES

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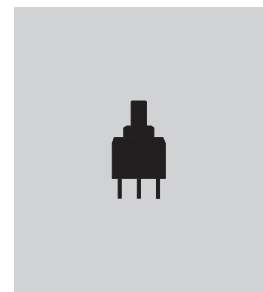
Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smooth, positive detent actuation, increased contact stability, and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

.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.
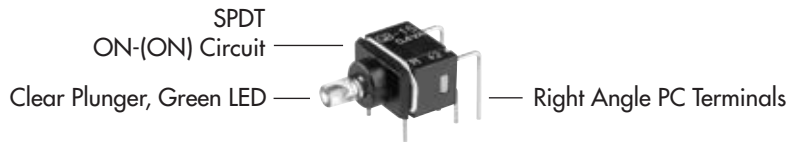
Actual Size

Toggles · Rockers · Pushbuttons · Illuminated PB · Programmable · Keylocks · Rotaries · Slides · Tactiles · Tilt · Touch · Indicators · Accessories · Supplement

D

Sidebar navigation: Toggles | Rockers | Pushbuttons | Illuminated PB **D** | Programmable | Keylocks | Rotaries | Slides | Tactiles | Tilt | Touch | Indicators | Accessories | Supplement

TYPICAL SWITCH ORDERING EXAMPLE

| GB | 1 | 5 | J | H | F |

Pole
| 1 | SPDT |

Circuit
| 5 | ON | (ON) |
| ( ) = Momentary | | |

Actuator
| J | Clear |

PC Terminals
P	Straight
H	Right Angle
V	Vertical

LEDs
C	Red
D	Amber
F	Green
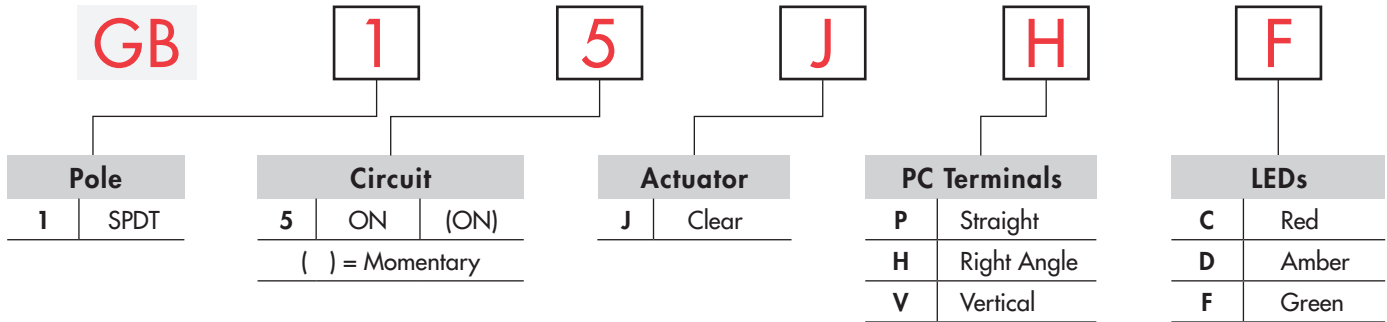
DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

GB15JHF

- SPDT
- ON-(ON) Circuit
- Clear Plunger, Green LED
- Right Angle PC Terminals

POLE & CIRCUIT

Pole	Model	Plunger Position ( ) = Momentary Normal	Down	Connected Terminals Normal	Down	Throw & Switch/Lamp Schematics
SP	GB15	ON	(ON)	5-6	5-4	SPDT

Note: Terminal numbers are not actually on the switch. LED circuit is isolated and requires an external power source.

5 (COM), 4, 6 — (1) — (3)

ACTUATOR

| J | Clear Plunger |

(4.0) Dia .157
(2.0) Dia .079
(3.3) .130
(1.6) .063
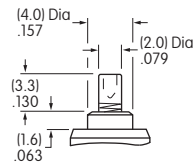
LED COLORS & SPECIFICATIONS

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.

Colors		C Red	D Amber	F Green
Maximum Forward Current	I_{FM}	30mA	30mA	30mA
Typical Forward Current	I_F	20mA	20mA	20mA
Forward Voltage	V_F	1.95V	2.0V	2.1V
Maximum Reverse Voltage	V_{RM}	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range		−25° ~ +55°C		

NKK SWITCHES

Ultra-Miniature Fully Illuminated Plungers

Series GB

Toggles

Rockers

Pushbuttons

D

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

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Indicators

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PC TERMINALS
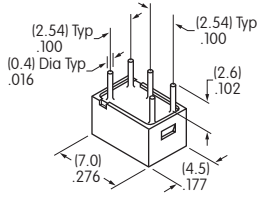
P Straight
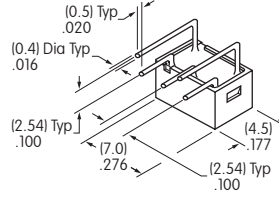
H Right Angle
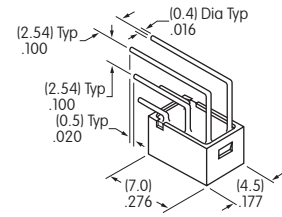
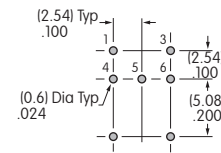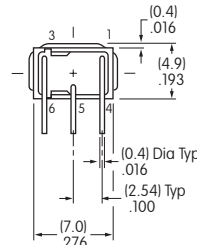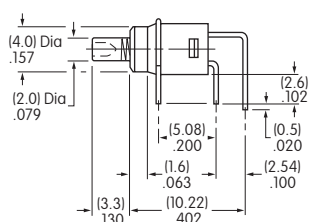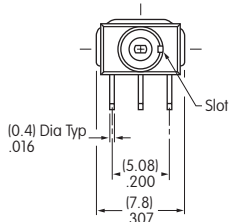**V** Vertical

TYPICAL SWITCH DIMENSIONS
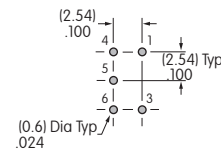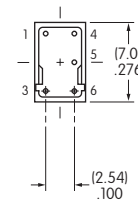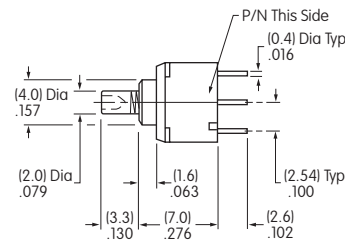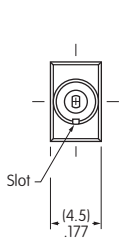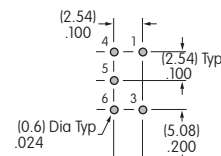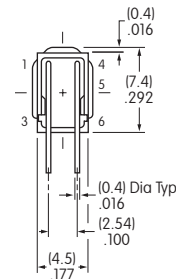
Straight PC

Terminals 1 & 3 are lamp terminals.
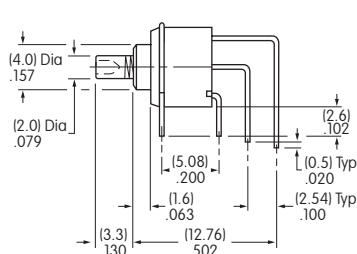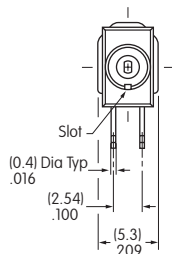
GB15JPD

Right Angle PC

Terminals 1 & 3 are lamp terminals.

GB15JHF

Vertical PC

Terminals 1 & 3 are lamp terminals.

GB15JVC