

## General Specifications

### Electrical Capacity (Resistive Load)

**Logic Level (code G):** 0.4VA maximum @ 28V AC/DC maximum  
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)

### 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:** 100,000 operations minimum  
**Electrical Life:** 100,000 operations minimum  
**Nominal Operating Force:** 1.8 Newtons  
**Travel:** 1.3mm (.051") pretravel; 0.5mm (.020") overtravel; 1.8mm (.071") total travel

### Materials & Finishes

**Housing:** Glass fiber reinforced polyamide  
**Base:** Glass fiber reinforced polyamide  
**Movable Contact:** Phosphor bronze with gold plating  
**Contact Terminals:** Phosphor bronze with gold plating  
**Lamp Terminals:** Steel with silver plating

### Environmental Data

**Operating Temp Range:** -25°C through +50°C (-13°F through +122°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/s<sup>2</sup>) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

### Installation

**Cap Installation Force:** 15N (3.37 lbf) maximum downward force on cap  
**Soldering Time & Temperature:** 3 seconds @ 350°C or 5 seconds @ 270°C  
**Process Seal:** Not available

### Standards & Certifications

**UL Recognition or CSA Certification:** The HB2 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

Quiet actuation combined with crisp tactile feedback suited for broadcast equipment.

Full face illumination with choice of red/green or red/yellow bicolor LEDs, as well as simultaneous bicolor illumination which produces amber.

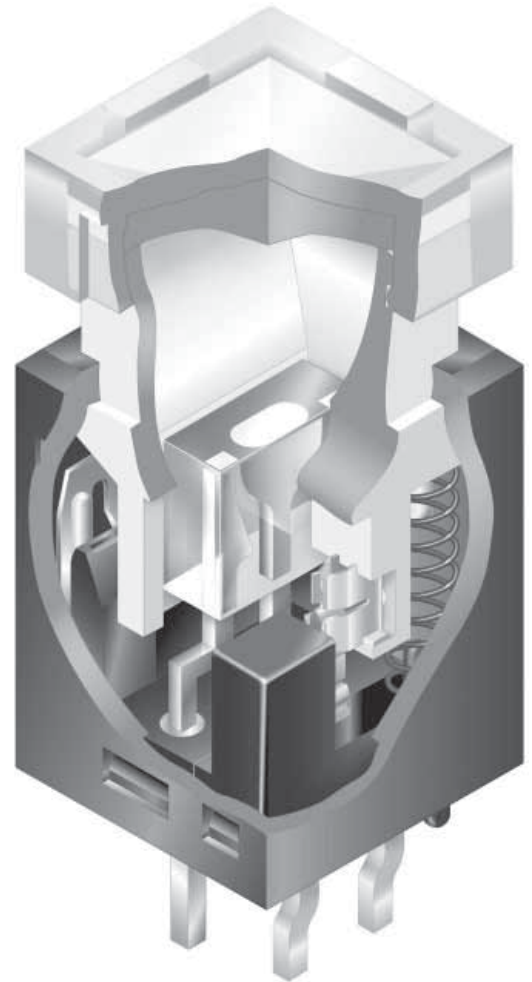
Option of legends on caps or film insert.

Compact design with short body 17.0mm (.669") from PCB to top of cap and 7.5mm (.295") square cap.

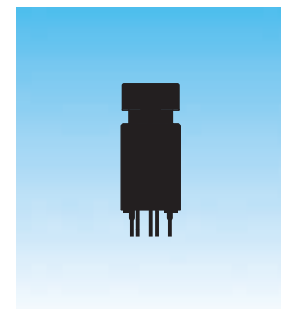
Sliding Twin Crossbar (STC) mechanism provides unequalled logic-level reliability, contact stability, smooth positive detent actuation, and long life.

Crimped power terminals ensure secure PCB mounting and prevent dislodging during soldering.

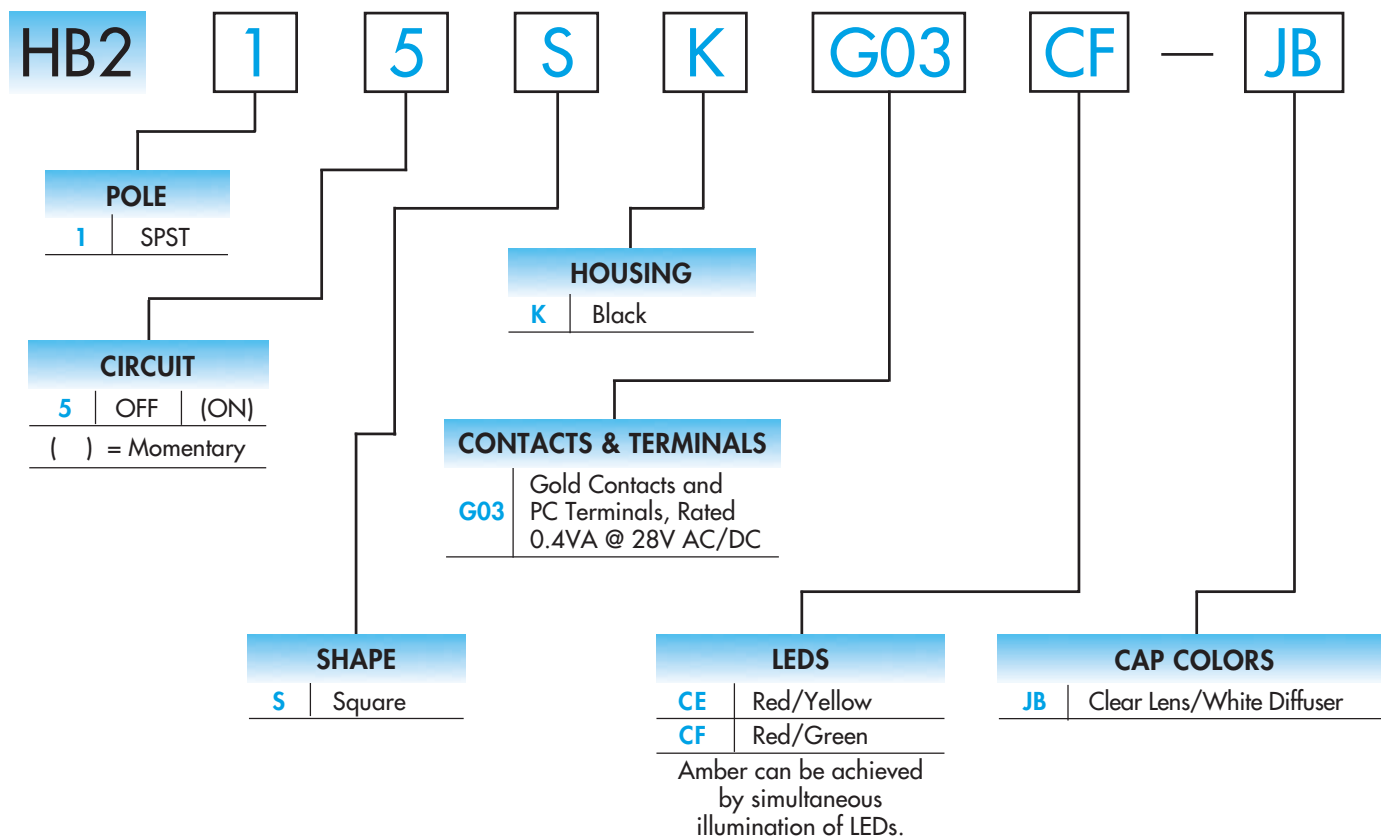
Suitable applications include broadcast, telecommunication, and medical equipment, as well as measuring instruments, etc.



Actual Size

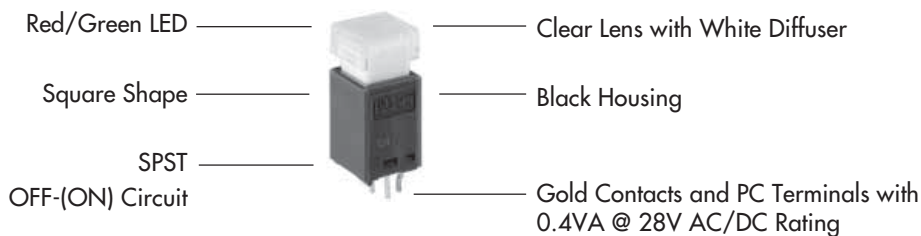


## TYPICAL SWITCH ORDERING EXAMPLE



### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

#### HB215SKG03CF-JB



POLE & CIRCUIT						
Pole	Model	Plunger Position ( ) = Momentary		Connected Terminals		Throw & Switch/Lamp Schematics
		Normal	Down	Normal	Down	
SP	HB215	OFF 	(ON) 	OPEN 	1-2 	Notes: Switch terminals are not marked on switch. Red LED terminal is marked with "R". LED circuit is isolated and requires external power source.  

### HOUSING SHAPE & COLOR

**S** .307" Square Body

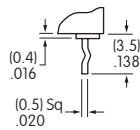
**K** Black Housing

### CONTACT MATERIALS, RATINGS, & TERMINALS

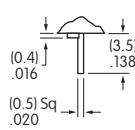
**G03** Gold Contacts

Logic Level

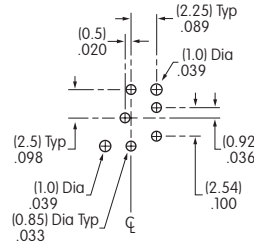
0.4VA maximum @ 28V AC/DC



Switch Terminal

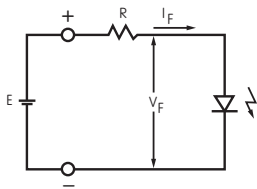


Lamp Terminal



PCB Footprint

### BICOLOR LEDs & SPECIFICATIONS



$$R = \frac{E - V_F}{I_F}$$

Where: R = Resistor Value (Ohms)  
 E = Source Voltage (V)  
 V<sub>F</sub> = Forward Voltage (V)  
 I<sub>F</sub> = Forward Current (mA)

LED is an integral part of the HB2 switch.		<b>CE</b>	<b>CF</b>	Unit
	Color	Red/Yellow	Red/Green	
Forward Peak Current	I <sub>FM</sub>	30/30	30/30	mA
Continuous Forward Current	I <sub>F</sub>	20/20	20/20	mA
Forward Voltage	V <sub>F</sub>	2.0/2.1	2.0/2.1	V
Reverse Peak Voltage	V <sub>RM</sub>	4/4	4/4	V
Current Reduction Rate Above 25°C	ΔI <sub>F</sub>	0.33/0.33	0.33/0.33	mA/°C
Ambient Temperature Range		-25°C ~ +50°C		

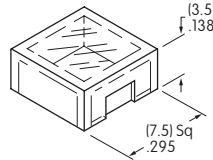
Electrical specifications are determined at a basic temperature of 25°C. LED circuit is independent of switch operation.

If the source voltage is greater than rated LED voltage, a ballast resistor must be connected in series with the LED. The circuit diagram and formula above will assist in calculating the value of the required ballast resistor.

## CAP COLORS

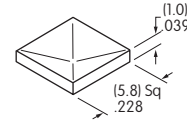
**J** Clear Transparent Lens

**AT3081**  
Square Lens



**B** White Translucent Diffuser

**AT3082**  
Square Diffuser



Lens & Diffuser Material: Polycarbonate    Lens Finish: Glossy    Diffuser Finish: Frosted

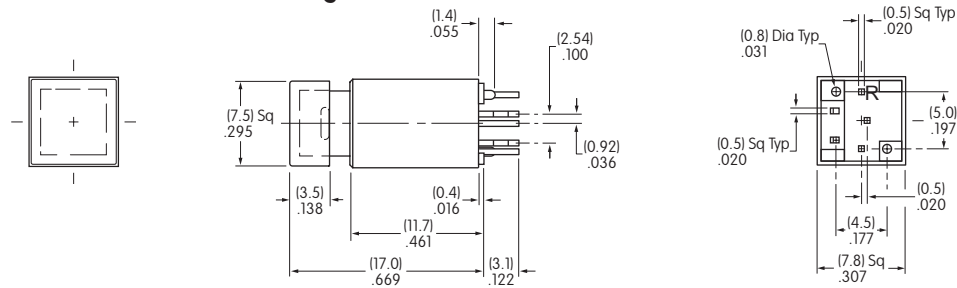
## TYPICAL SWITCH DIMENSIONS

Square



**HB215SKG03CF-JB**

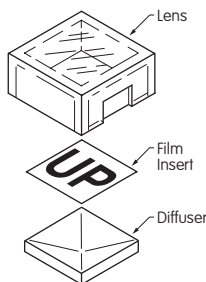
Single Pole



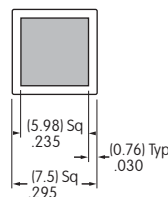
## LEGENDS

General information and basic specifications are presented here for customers who want to do their own legends.

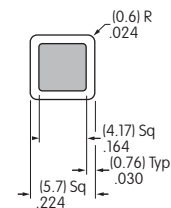
### Suggested Printable Area for Lens and Film Insert



Lens



Film Insert



Shaded area is printable area.

#### Recommended Print Method:

Screen Print on Lens or Film Insert; Pad Print on Lens. Epoxy based ink is recommended.

#### Insert Material and Thickness:

Clear Polyester, 4 mil max.

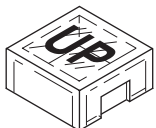
### Additional Methods

Additional methods for legends are engraving the lens and laser printing on film inserts.

Maximum depth for engraving is 0.3 mm (.012") on the cap lens.

Enamel paint is recommended to fill the engraved area.

## LEGEND PACKET



1. To order caps with legends, contact the factory and request the HB2 Legend Packet.
2. Once you determine your desired legend, fill out the ordering work sheet included in the packet.
3. Return the completed work sheet to receive a quotation.