

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.

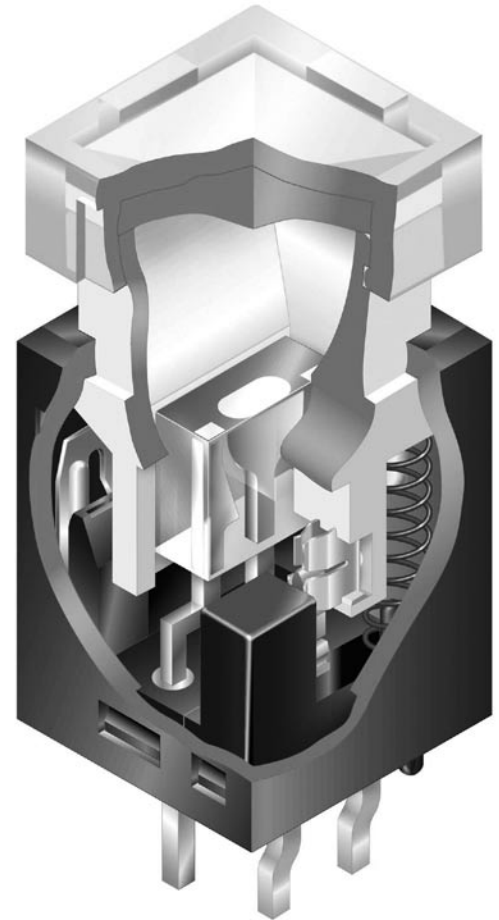
Option of legends on caps or film insert.

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

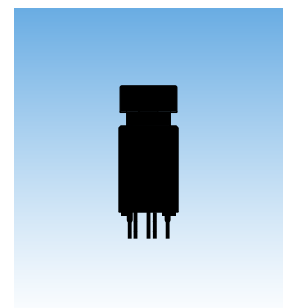
Sliding Twin Crossbar (STC) mechanism provides unequalled logic-level reliability, contact stability, smooth positive detent actuation, and long life.

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



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)
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: 100,000 operations minimum for momentary;
Electrical Life: 100,000 operations minimum
Nominal Operating Force: 1.8N
Travel: Pretravel .051" (1.3mm); Overtravel .020" (0.5mm); Total Travel .071" (1.8mm)

Materials & Finishes

Housing: Glass fiber reinforced polyamide
Base: Glass fiber reinforced polyamide
Movable Contact: Phosphor bronze with gold plating
Switch 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/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

Cap Installation Force: 15.0N (3.37 lbf) maximum downward force on cap

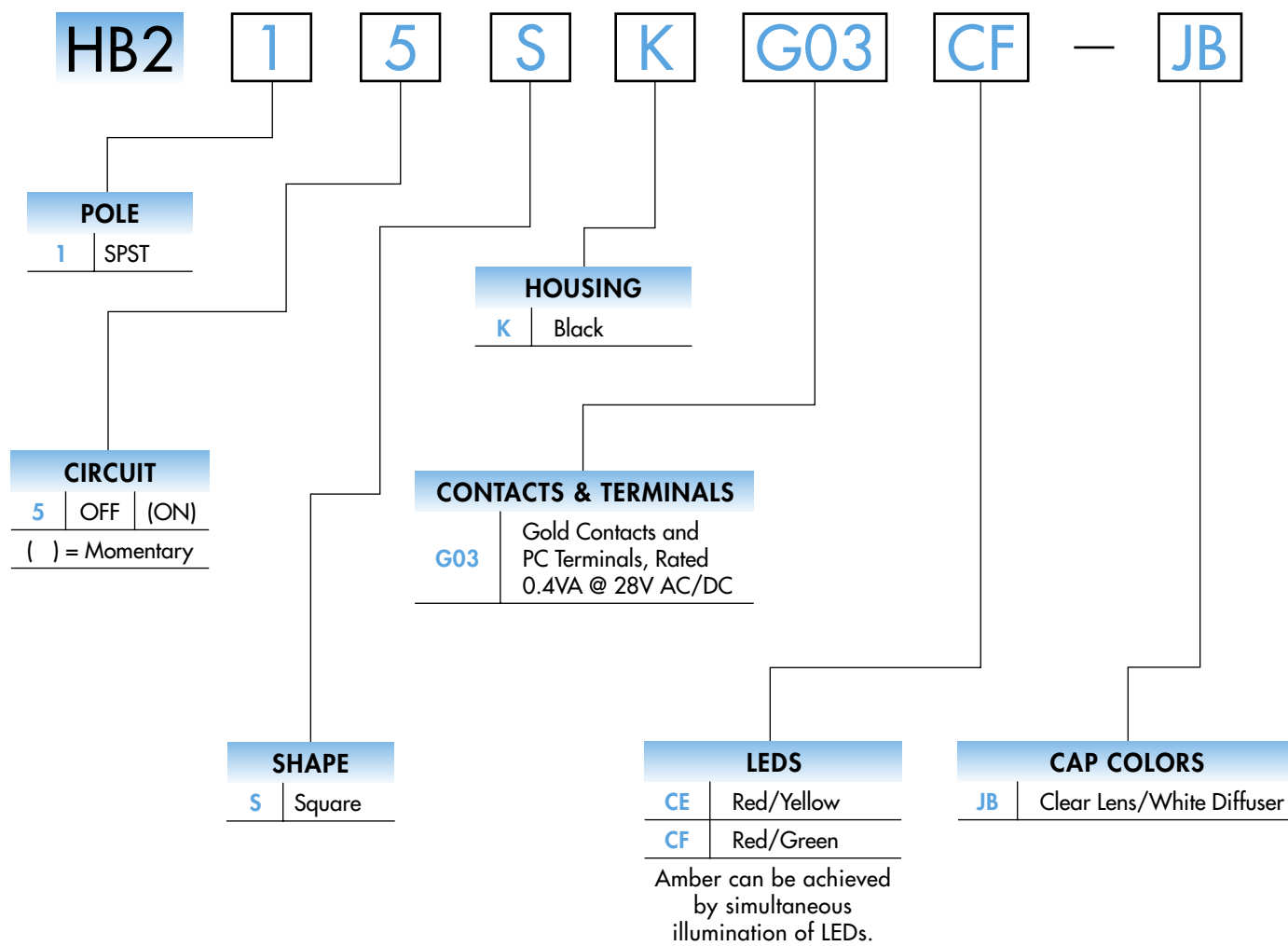
PCB Processing

Soldering: Wave Soldering: See Profile A in Supplement section.
Manual Soldering: See Profile B in Supplement section.
Cleaning: These devices are not process sealed. Hand clean locally using alcohol based solution.

Standards & Certifications

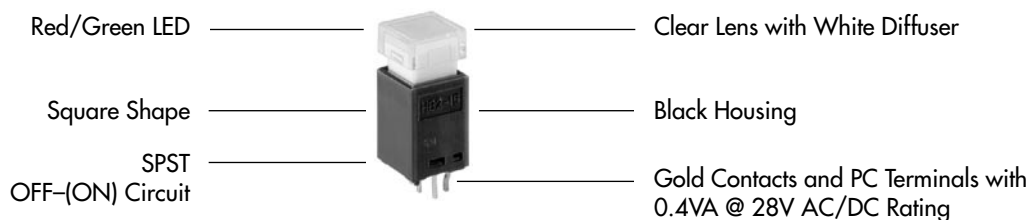
UL Recognized: The HB2 pushbuttons have not been tested for UL recognition or CSA certification.
or CSA Certified: These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

TYPICAL SWITCH ORDERING EXAMPLE










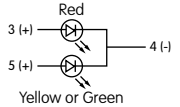


DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

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 the switch. Red LED terminal is marked with "R". Lamp circuit is isolated and requires external power source.  

HOUSING SHAPE & COLOR



.307" (7.8mm) Square Body



Black Housing

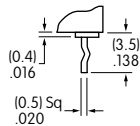
CONTACT MATERIALS, RATINGS & TERMINALS



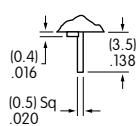
Gold Contacts

Logic Level

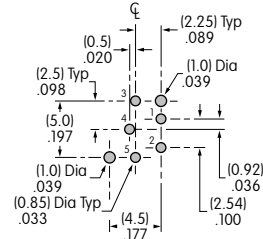
0.4VA maximum @ 28V AC/DC maximum



Switch Terminal

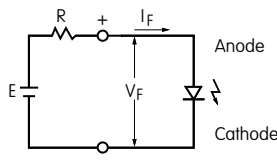


Lamp Terminal



PCB Footprint



BICOLOR LEDS & SPECIFICATIONS



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

Where: R = Resistor Value (Ohms)
 E = Source Voltage (V)
 V_F = Forward Voltage (V)
 I_F = Forward Current (A)

LED is an integral part of the switch.

	Color	 Red/Yellow	 Red/Green	Unit
Forward Peak Current	I _{FM}	30/30	30/30	mA
Continuous Forward Current	I _F	20/20	20/20	mA
Forward Voltage	V _F	2.0/2.1	2.0/2.1	V
Reverse Peak Voltage	V _{RM}	4/4	4/4	V
Current Reduction Rate Above 25°C	ΔI _F	0.33/0.33	0.33/0.33	mA/°C
Ambient Temperature Range		-25° ~ +50°C		

The electrical specifications shown are determined at a basic temperature of 25°C.

LED circuit is isolated and requires external power source.

If the source voltage exceeds the rated voltage, a ballast resistor is required.

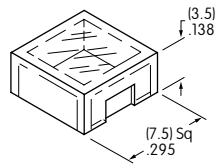
The resistor value can be calculated by using the formula in the Supplement section.

CAP COLORS



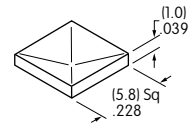
Clear Transparent Lens

**AT3081
Square Lens**



White Translucent Diffuser

**AT3082
Square Diffuser**



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

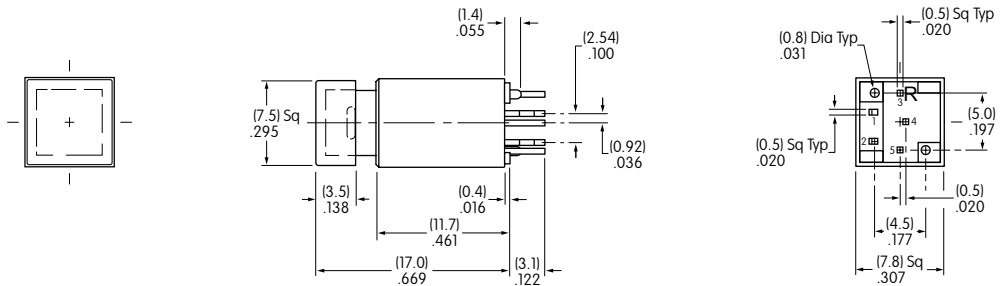
TYPICAL SWITCH DIMENSIONS

Square

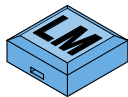
Single Pole



HB215SKG03CF-JB



LEGENDS



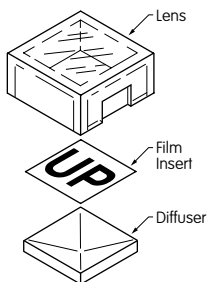
Easily create and submit your own legends using our new on-line Legend Maker.

Visit www.nkkswitches.com

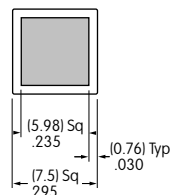
For other legend support options, customers may either contact the factory or utilize the general information and basic specifications presented below.

Suggested Printable Area for HB2 Lens & Film Insert

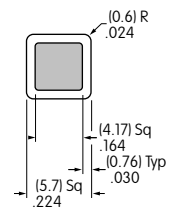
Recommended Methods: Laser Etch, Screen Print, or Pad Print on Lens; Screen Print on Film Insert.
Epoxy based ink is recommended.



Lens



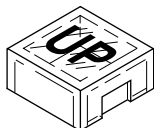
Film Insert



Shaded areas are printable areas.

Film Insert: Clear Polyester, 4 mil max. thickness

Additional Methods



Additional methods for legends are engraving the lens and laser printing on film inserts. Maximum depth for engraving is .012" (0.3mm) on the cap lens. Enamel paint is recommended to fill the engraved area.