

General Specifications

Electrical Capacity (Resistive Load)

Logic Level (gold): 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 Temperature 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

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.

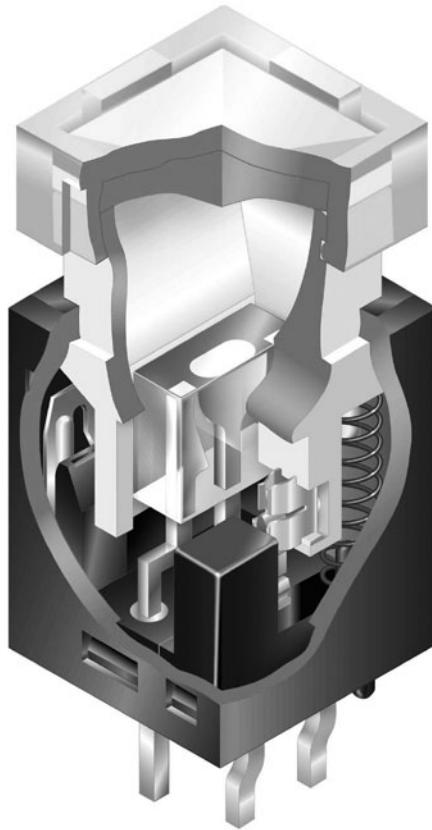
Option of legends on caps or film insert.

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

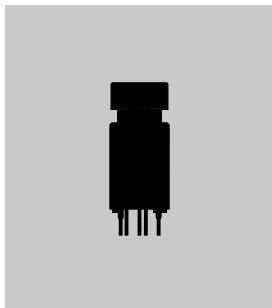
Sliding Twin Crossbar (STC) mechanism provides unequalled logic-level reliability, contact stability, smooth positive detent actuation, and long life.

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



Toggles

Rockers

Pushbuttons

Illuminated PB

D

Keylocks

Rotaries

Slides

Tactiles

Tilt

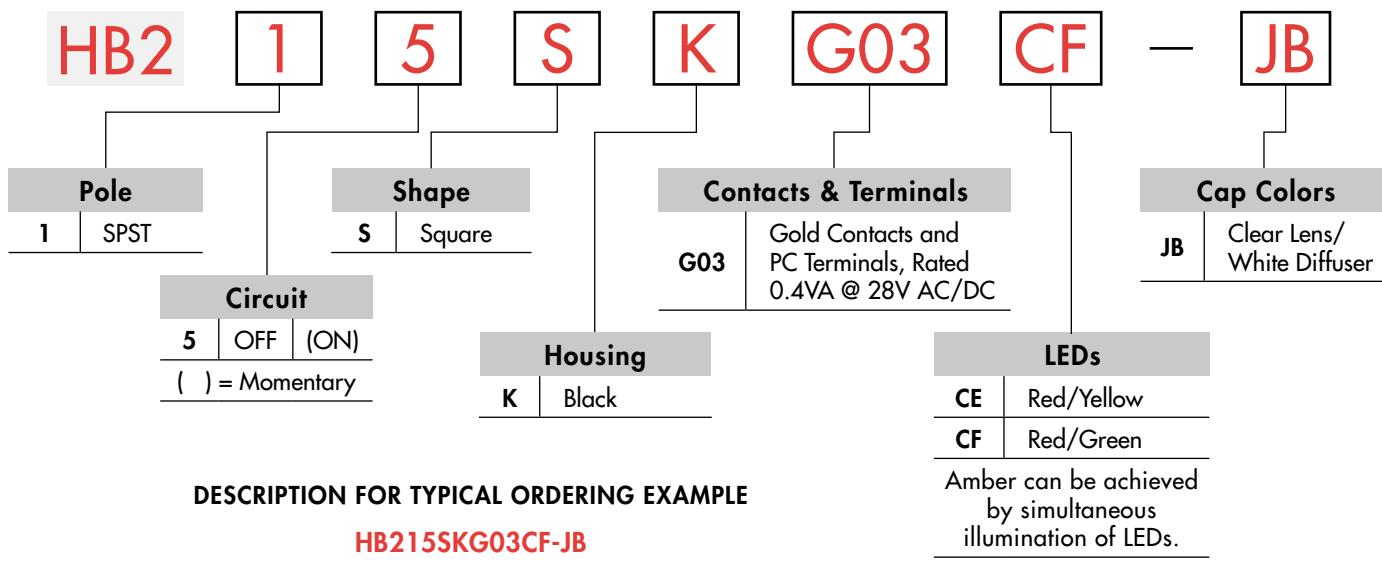
Touch

Indicators

Accessories

Supplement

TYPICAL SWITCH ORDERING EXAMPLE



POLE & CIRCUIT

		Plunger Position () = Momentary		Connected Terminals		Throw & Switch/Lamp Schematics	
Pole	Model	Normal	Down	Normal	Down	Notes:	
SP	HB215	OFF	(ON)	OPEN	1-2	SPST	

HOUSING SHAPE & COLOR



.307" (7.8mm) Square Body



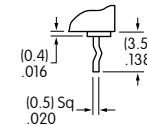
Black Housing

CONTACT MATERIALS, RATINGS & TERMINALS

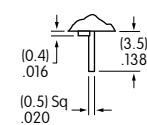


Gold Contacts Logic Level 0.4VA maximum @ 28V AC/DC maximum

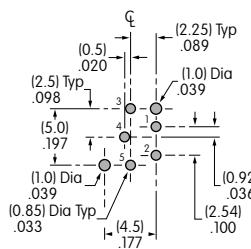
Switch Terminal



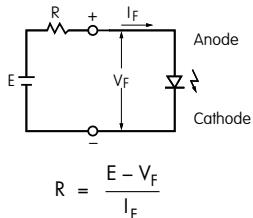
Lamp Terminal



PCB Footprint



BICOLOR LEDS & SPECIFICATIONS



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	CE	CF	
Red/Yellow	30/30	30/30	mA
Typical Forward Current	I _{FM}	20/20	mA
Forward Voltage	V _F	2.0/2.1	V
Reverse Peak Voltage	V _{RM}	4/4	V
Current Reduction Rate Above 25°C	ΔI _F	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.

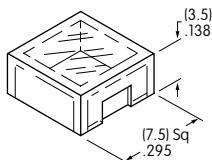
If the source voltage exceeds the rated voltage, a ballast resistor is required.

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

CAP COLORS

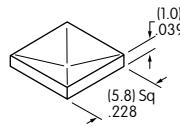
J

Clear Transparent Lens

AT3081
Square Lens

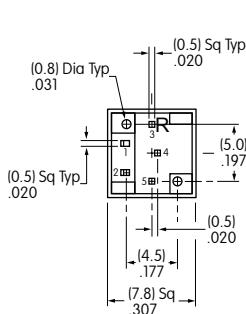
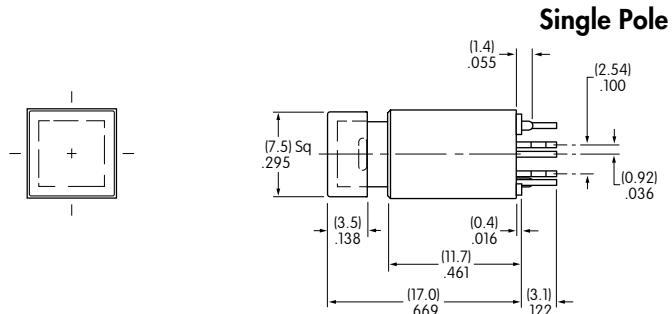
B

White Translucent Diffuser

AT3082
Square Diffuser

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

TYPICAL SWITCH DIMENSIONS



Square

HB215SKG03CF-JB

LEGENDS

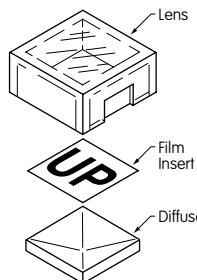
NKK Switches can provide custom legends for caps. Contact factory for more information.

Suggested Printable Area for HB2 Lens & Film Insert

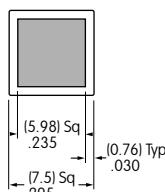
Recommended Methods: Screen Print or Pad Print on Lens; Laser Print on Film Insert.

Epoxy based ink is recommended.

Film Insert: Clear Polyester, 4 mil max. thickness



Lens



Film Insert



Shaded areas are printable areas.

Toggles

Rockers

Pushbuttons

Programmable

Keylocks

Rotaries

Slides

Tactiles

Touch

Indicators

Accessories

Supplement