

General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver): 0.1A maximum @ 30V AC/DC

Other Ratings

Contact Resistance:	50 milliohms maximum
Insulation Resistance:	100 megohms minimum @ 500V DC
Dielectric Strength:	500V AC minimum for 1 minute minimum
Mechanical Life:	100,000 operations minimum
Electrical Life:	50,000 operations minimum
Nominal Operating Force:	3.43N
Contact Timing:	Nonshorting (break before make)
Travel:	Pretravel .087" (2.2mm); Overtravel .031" (0.8mm); Total Travel .118" (3.0mm)

Materials & Finishes

Housing:	Glass fiber reinforced polyamide
Base:	Glass fiber reinforced polyamide
Movable Contact:	Phosphor bronze with silver plating
Stationary Contacts:	Phosphor bronze with silver plating
Common Terminal:	Phosphor bronze with silver plating
End Terminals:	Phosphor bronze with silver plating
Lamp Terminals:	Phosphor bronze with silver plating

Environmental Data

Operating Temperature Range:	-25°C through +50°C (-13°F through +122°F) for Illuminated -25°C through +70°C (-13°F through +158°F) for Nonilluminated
Humidity:	90 ~ 95% humidity for 96 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 ²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

Mounting Torque:	0.49Nm (4.34 lb•in) maximum for round mounting nut
Cap Installation Force:	9.8N (2.2 lbf) maximum downward force on cap
Soldering Time & Temperature:	Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

UL:	File No. E44145 - Recognized only when ordered with marking on switch. Add "/U" or "/CUL" before first dash in part number to order UL recognized switch. All models recognized at 0.1A @ 30V AC/DC.
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Distinctive Characteristics

Full face and spot illumination available. Front panel relamping.

Choice of super bright LEDs in white, green, and blue in addition to bright red, amber, and green LEDs.

Compact front panel design with 9mm square or round bezel options.

Rear panel threaded mounting. Behind panel depth of less than one inch. 8mm body diameter fits common size panel cutout.

Latchdown feature gives indication of circuit status. Audible and tactile feedback with smooth and responsive operation.

Dual, sliding contacts with self-cleaning action provide contact stability, high reliability, and increased operating life.

Solder lug terminals have spacing of .100" (2.54mm) for choice of mounting.

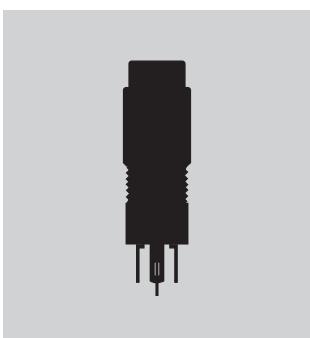
Longer normally closed terminal facilitates wiring and soldering.

Molded-in terminals lock out flux, dust, and other contaminants.

Matching indicators available.



Actual Size



TYPICAL SWITCH ORDERING EXAMPLE

HB 1 5 S K W01 - 6G - JB

Pole

1 SPDT

Shapes

S Square
C Round

Contacts & Terminals

W01 Silver Contacts and
Solder Lug Terminals
0.1A @ 30V AC/DC

Circuits

5 ON (ON)
() = Momentary

6 ON ON

Alternate Action
with Latchdown

Housing

K Black only

LEDs

Bright

5C Red
5D Amber
5F Green

Cap Types & Colors

LED Cap: Lens/Diffuser Color

AB	Black Cap/White Window for Spot Illuminated (Square only)
CB	Red/White
DB	Amber/White
FB	Green/White
JB	Clear/White

Super Bright

6B White
6F Green
6G Blue

LED Cap: Lens/Diffuser Color

JB Clear/White

Nonilluminated

No Code Nonilluminated

Nonilluminated Cap Colors

A	Black (Square Only)
B	White
C	Red
E	Yellow
F	Green
G	Blue

IMPORTANT:

Switches are supplied without UL & cULus marking unless specified. **UL & cULus recognized only when ordered with marking on the switch.** Specific models, ratings, & ordering instructions are noted on the General Specifications page.



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

HB15SKW01-6G-JB



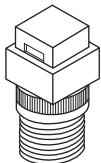
POLES & CIRCUITS							
		Plunger Position () = Momentary		Connected Terminals		Throw & Switch/Lamp Schematics	
Pole	Model	Normal	Down	Normal	Down	Notes: Switch is marked with NO, NC, C, L. LED circuit is isolated and requires external power source.	
SP	HB15 *HB16	ON ON	(ON) ON	1-3	1-2	SPDT	

* When in latchdown position for the alternate circuit, cap position is .051" (1.3mm) above the built-in bezel.

- Toggle
- Rockers
- Pushbuttons
- Pushbutton
- Programmable
- Keylocks
- Rotaries
- Slides
- Tactiles
- Tilt
- Touch
- Indicators
- Accessories
- Supplement

SHAPES & PANEL CUTOUT

S .354" (9.0mm) Square



The bezel is an integral part of the switch body.

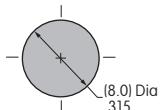
C .354" (9.0mm) Round



The bezel is an integral part of the switch body.

Panel Cutout & Mounting

Recommended Panel Thickness:
.020 ~ .197" (0.5 ~ 5.0mm)



Overtightening the mounting nut AT073 may damage the switch housing.

HOUSING

K Housing available in black only.

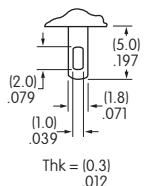
CONTACT MATERIALS, RATINGS, & TERMINALS

W01 Silver Contacts

Power Level

0.1A maximum @ 30V AC/DC

Solder Lug



PCB Mounting

Solder lug terminals are spaced .100" x .200" (2.54mm x 5.08mm). This enables PCB mounting which can be accomplished by elongating PC board holes to .080" (2.03mm).

LED COLORS & SPECIFICATIONS

The electrical specifications shown are determined at a basic temperature of 25°C. LED circuit is isolated and requires external power source. Single element LED is colored in OFF state. 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.

Bright AT633	 Note for Super Bright: 	Bright			Super Bright			Unit
		5C	5D	5F	6B	6F	6G	
Super Bright	(+)-O-  O(-)	Color	Red	Amber	Green	White	Green	Blue
AT624G Blue	Maximum Forward Current	I_{FM}	30	30	30	30	30	30
AT629B White	Typical Forward Current	I_F	20	20	20	20	20	20
AT630F Green	Forward Voltage	V_F	2.1	2.05	2.1	3.3	3.3	3.3
T-1 Bi-pin	Maximum Reverse Voltage	V_{RM}	10	10	10	7	7	7
	Current Reduction Rate Above 25°C	ΔI_F	0.40	0.40	0.40	0.40	0.40	0.40
	Ambient Temperature Range		-25° ~ +50°C			-25° ~ +50°C		

No Code

No Lamp

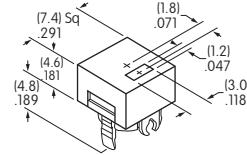
CAP TYPES & COLORS

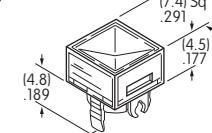
Color Codes:	A Black	B White	C Red	D Amber	E Yellow	F Green	G Blue	J Clear
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Cap Colors Available:
AB Black Cap with Translucent White Window for LED Display

Colored Cap for Bright LEDs

 Square only
Material: Polycarbonate
Finish: Matte

AT4052
Spot Illuminated

Lens/Diffuser Colors Available:
CB Red/White

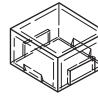
AT4166
Square

DB Amber/White

AT4167
Round

FB Green/White

Material: Polycarbonate

Finish: Glossy



Transparent Colored Lens



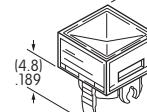
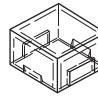
Translucent White Diffuser



Colored LED AT633

JB Clear Lens/White Diffuser

 Material: Polycarbonate
Finish: Glossy

White Cap for Bright & Super Bright LEDs
AT4031
Square

AT4032
Round


Transparent Clear Lens



Translucent White Diffuser



Colored LEDs AT624, AT629, AT630, or AT633

Cap Colors Available:
A Black (Square Only)

C

Red

F

Green

B White

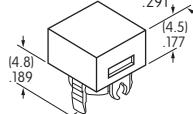
E

Yellow

G

Blue

Material: Polycarbonate

Nonilluminated Caps
AT4035
Square

AT4036
Round
