

Distinctive Characteristics

Full face or spot illumination with incandescent lamps or multi-element LEDs, with or without resistors.

Choice of super bright LEDs in white, green, and blue as well as bright LEDs in red, amber, and green.

Combination bezel-barrier is an integral part of the switch and prevents accidental actuation.

Unique, patented thermoplastic elastomer seal inside caps plus rolled sleeve of nitrile butadiene rubber at joining of housing and inner case, all for added protection to interior mechanism.

Dust and oil tight as well as splashproof panel seal models qualify to IP65 of IEC529 Standards (similar to NEMA 4 and 13). Panel seal models provided with exterior o-ring.

Distinctive design of snap-action contacts for shock resistance, long life, and sensitive actuation.

High density design to give behind panel depth of less than one inch.

Tin-lead plated terminals are epoxy sealed to lock out flux, dust, solvents, and other contaminants.

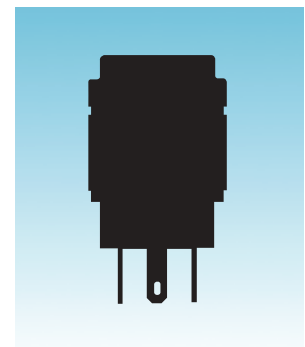
Latchdown for indication of circuit status, plus audible, tactile feedback with smooth, responsive operation.

Nonilluminated models available and shown in the Pushbutton section.

Matching indicators available and shown in the Indicator section.



Actual Size



General Specifications

Electrical Capacity (Resistive Load)

Power Level (code W): 3A @ 125V AC or 3A @ 250V AC or 3A @ 30V DC

Logic Level (code G): 0.4VA maximum @ 28V AC/DC maximum

Note: See Supplement Index (page Z1) to find explanation of operating range.

Other Ratings

Contact Resistance:	50 milliohms maximum for silver; 100 milliohms maximum for gold
Insulation Resistance:	200 megohms minimum @ 500V DC
Dielectric Strength:	1,000V AC minimum between contacts for 1 minute minimum; 1,500V AC minimum between contacts & case for 1 minute minimum
Mechanical Life:	1,000,000 operations minimum for momentary action 200,000 operations minimum for alternate action
Electrical Life:	100,000 operations minimum
Nominal Operating Force:	Single pole: 150 grams for nonsealed; 170 grams for sealed Double pole: 280 grams for nonsealed; 300 grams for sealed
Contact Timing:	Nonshorting (break-before-make)
Travel:	1.5mm (.059") pretravel; 1.5mm (.059") overtravel; 3.0mm (.118") total travel

Materials & Finishes

Housing/Bezel:	Glass fiber reinforced polyamide
Snap-in Frame:	Stainless steel
Base:	Diallyl phthalate resin
Movable Contactor:	Phosphor bronze with silver plating or gold plating
Movable Contacts:	Silver alloy with silver plating or brass with gold plating
Stationary Contacts:	Silver alloy or copper with gold plating
Power Terminals:	Phosphor bronze with tin-lead plating
Lamp Terminals:	Phosphor bronze with tin-lead plating



Environmental Data

Operating Temp Range:	-25°C through +50°C (-13°F through +122°F)
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)
Sealing:	IP65 of IEC529 standard for panel seal models

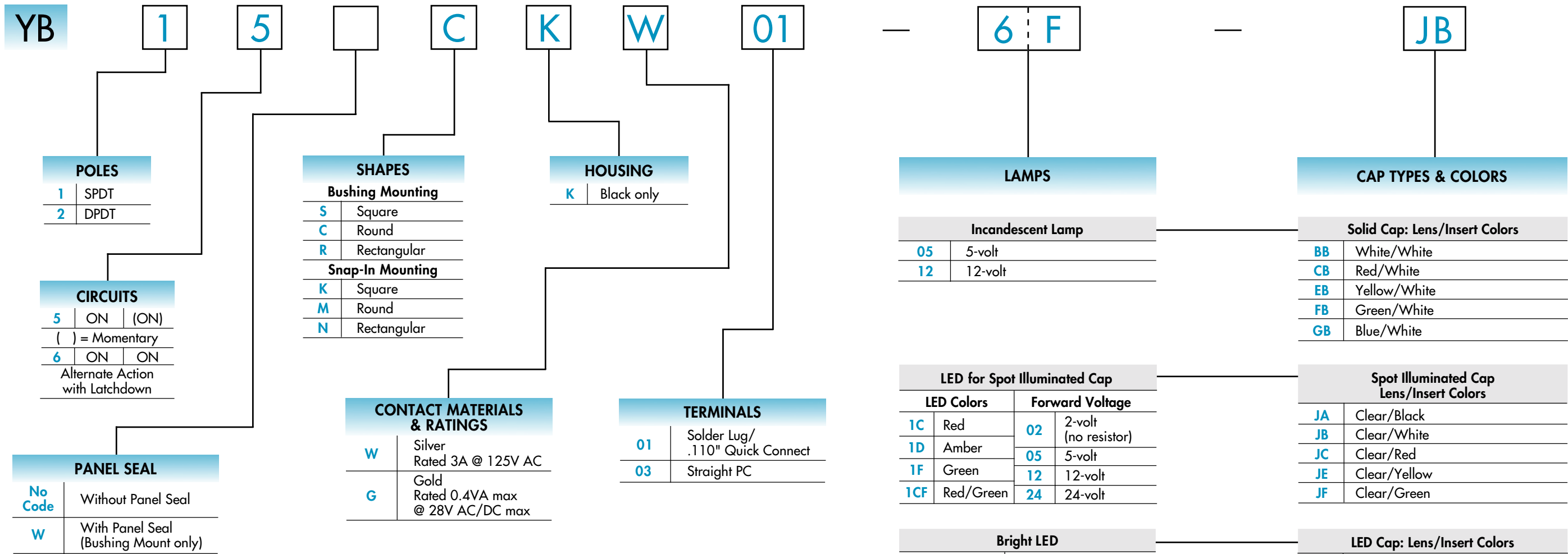
Installation

Mounting Torque:	.80Nm (7.08 lb•in) maximum
Soldering Time & Temperature:	3 seconds @ 350°C
Process Seal:	Not available

Standards & Certifications

Flammability Standards:	UL94V-0 housing & base
 UL Recognized:	All solder lug models recognized at 3A @ 125/250V AC or 0.4VA @ 28V AC/DC; UL File No. WOYR2.E44145; add "/U" to end of part number to order UL mark on switch.
 CSA Certified:	All solder lug models recognized at 3A @ 125/250V AC or 0.4VA maximum @ 28V AC/DC maximum; CSA File No. 023535-0-000; add "/C" to end of part number to order CSA mark on switch.

TYPICAL SWITCH ORDERING EXAMPLE


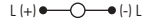
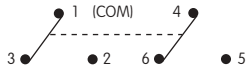
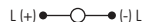


IMPORTANT:
Switches are supplied without UL & CSA marking unless specified. Specific models & ratings noted on General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE
YB15CKW01-6F-JB



POLES & CIRCUITS

Pole	Model	Plunger Position () = Momentary		Connected Terminals		Throw & Power/Lamp Schematics
		Normal	Down	Normal	Down	
SP	YB15 YB16*	ON ON	(ON) ON	1-3	1-2	SPDT  
DP	YB25 YB26*	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT  

* When in latched position for the alternate circuit, cap position is 0.5mm (.020") above the built-in bezel.

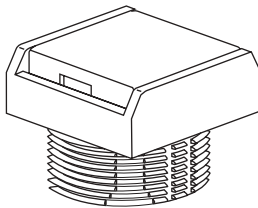
PANEL SEAL

No Code

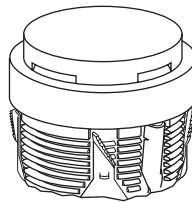
Without Panel Seal

Bushing
Mounting

Supplied with
mounting nut.



Snap-in
Mounting

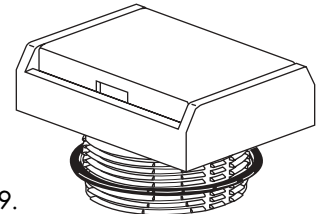


W

With Panel Seal

Bushing
Mounting
only

Supplied with
mounting nut
and o-ring AT089.



SHAPES & MOUNTING TYPES

Bushing Mounting

Snap-In Mounting

S Square

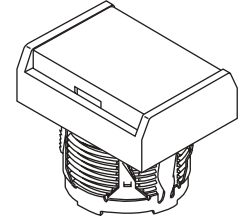
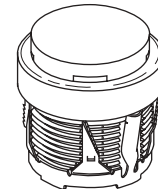
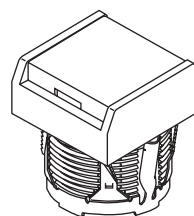
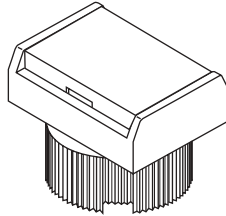
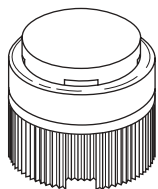
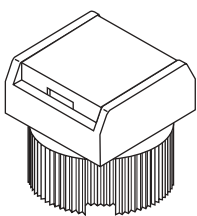
C Round

R Rectangular

K Square

M Round

N Rectangular



Bezel-barrier is an integral part of the switch body.

HOUSING

K Black

Housing available in black only. The 1-piece body and bezel-barrier have a matte finish.

CONTACT MATERIALS & RATINGS

W Silver Contacts

Power Level

3A @ 125/250V AC

G Gold Contacts

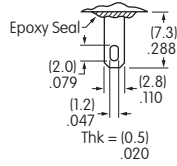
Logic Level

0.4VA @ 28V AC/DC

See Supplement Index (page Z1) for complete explanation of operating range.

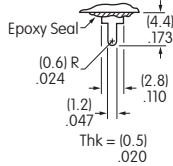
TERMINALS

01 Solder Lug/ .110" Quick Connect

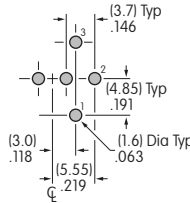


Wiring
The .047" x .079" oblong hole accommodates one solid 18-gauge wire or two solid or stranded 20-gauge wires.

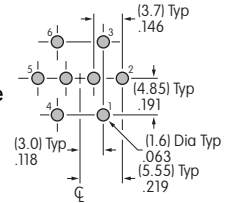
03 Straight PC



Single Pole



Double Pole



INCANDESCENT LAMP & SOLID CAP


Electrical Specifications

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

For dimension drawing of lamp see the Accessories & Hardware Index (page Y1).

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

The ballast resistor calculation and more lamp detail are shown in the Supplement; see Supplement Index (page Z1).

AT611		05	12	
 T-1 Bi-pin	Voltage	V	5V AC	12V AC
	Current	I	115mA	60mA
	MSCP		.150	.150
	Endurance	Hours	7,000 average	
	Ambient Temperature Range		-25°C ~ +50°C	

Solid Cap for Incandescent Lamp

Lens/Insert
Colors Available:

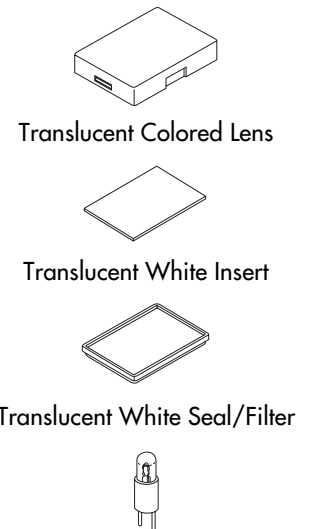
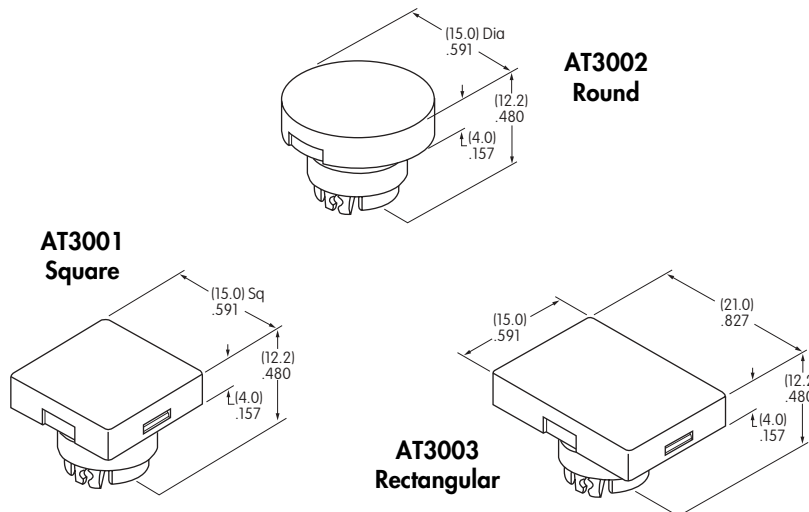
BB White/
White

CB Red/
White

EB Yellow/
White

FB Green/
White

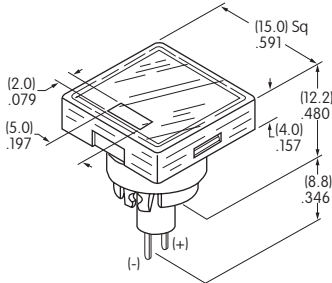
GB Blue/
White



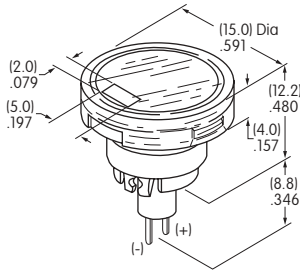
Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Filter)

SPOT ILLUMINATED CAP WITH BUILT-IN LED

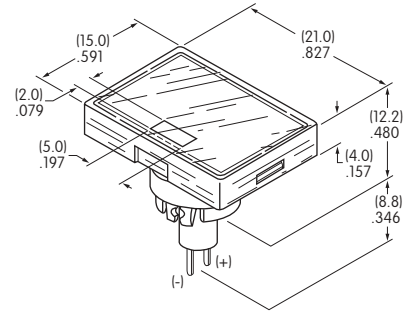
This spot-illuminated cap is factory assembled.



AT3010
Square



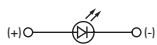
AT3011
Round



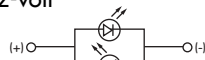
AT3012
Rectangular

Colors Available:		02	05	12	24		
1C Red	1D Amber	1F Green	1CF Red/Green	w/o Resistor	w/Resistor	w/Resistor	w/Resistor
Forward Peak Current	I_{FM}		20mA	15mA	15mA	12mA	
Continuous Forward Current	I_F		15mA	12.5mA	12.5mA	10mA	
Forward Voltage	V_F		2.1V	5V	12V	24V	
Reverse Peak Voltage (not applicable to bicolor)	V_{RM}		5V	5V	5V	5V	
Current Reduction Rate Above 25°C	ΔI_F		0.27mA/°C	-----	-----	-----	
Ambient Temperature Range	-25°C ~ +50°C						

Without Resistor 2-volt

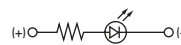


Single Color



Bicolor

With Resistor 5, 12, 24-volt



Single Color



Bicolor

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

Single color LEDs are colored in OFF state. Bicolor LED is translucent white in OFF state.

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

The ballast resistor calculation and more lamp detail are shown in the Supplement; see Supplement Index (page Z1).

Lens/Insert

Colors Available:

JA Clear/Black



Clear Lens

JB Clear/White



Colored Insert

JC Clear/Red



Seal

JE Clear/Yellow



Built-in LED
(integral part
of the cap)

JF Clear/Green

Example part number
when cap is ordered separate from switch:

AT3010F02JA

for a

Square Spot Illuminated Cap
with Green 2-volt LED without resistor
Clear Lens and Black Insert

Materials: Polycarbonate (Lens & Insert) and Thermoplastic Elastomer (Seal)


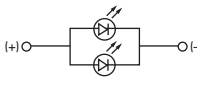
BRIGHT LED & LED CAPS

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 voltage, a ballast resistor is required. The ballast resistor calculation is shown in the Supplement (see page Z1) & lamp drawings are in Accessories & Hardware (see page Y1).

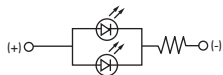
Electrical Specifications for Bright LED without Resistor

Bright AT628   T-1 Bi-pin	Color Codes: 5C Red 5D Amber 5F Green	No Code No Resistor			
	Forward Peak Current	I_{FM}	40mA	40mA	40mA
	Continuous Forward Current	I_F	26mA	26mA	26mA
	Forward Voltage	V_F	1.9V	2.0V	2.2V
	Reverse Peak Voltage	V_{RM}	4V	4V	4V
	Current Reduction Rate Above 25°C	ΔI_F	0.50mA/°C		
	Ambient Temperature Range	-25°C +50°C			

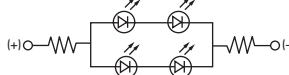
Electrical Specifications for Bright LED with Resistor

Bright AT634  T-1¼ Bi-pin	Color Codes: 5C Red 5D Amber 5F Green	Resistor Codes			
		05	12	24	
	Forward Peak Current	I_{FM}	—	—	—
	Continuous Forward Current	I_F	25mA	20mA	10mA
	Forward Voltage	V_F	5V	12V	24V
	Reverse Peak Voltage	V_{RM}	4V	8V	16V
Ambient Temperature Range	-25°C +50°C				

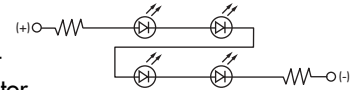
AT634
5-volt,
2-element
with Resistor



AT634
12-volt,
4-element
with Resistor



AT634
24-volt,
4-element
with Resistor



Cap for Bright LED

Lens/Insert
Color Codes:

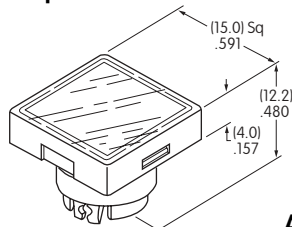
JB Clear/White

JC Clear/Red

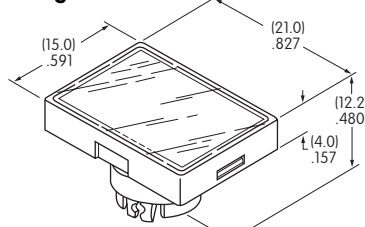
JD Clear/Amber

JF Clear/Green

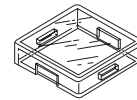
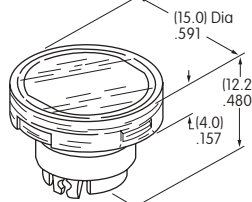
AT3004
Square



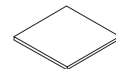
AT3006
Rectangular



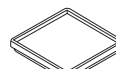
AT3005
Round



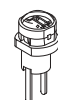
Transparent Clear Lens



Translucent Colored Insert



Translucent White Seal/Diffuser



Bright LEDs
AT628 AT634

Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Diffuser)


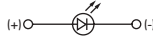
SUPER BRIGHT LED & LED CAPS

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 voltage, a ballast resistor is required. The ballast resistor calculation is shown in the Supplement (see page Z1) & lamp drawings are in Accessories & Hardware (see page Y1).

Electrical Specifications for Super Bright LED

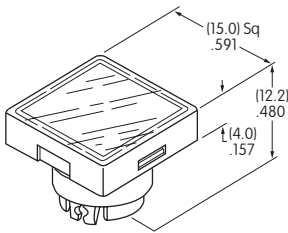
Super Bright AT625G Blue AT631B White AT632F Green			Colors:	6B	6F	6G		
				White	Green	Blue		
				Forward Peak Current	I_{FM}	30mA	30mA	30mA
				Continuous Forward Current	I_F	20mA	20mA	20mA
				Forward Voltage	V_F	3.6V	3.5V	3.6V
				Reverse Peak Voltage	V_{RM}	5V	5V	5V
				Current Reduction Rate Above 25°C	ΔI_F	0.50mA/°C		
Ambient Temperature Range		-25°C ~ +50°C						



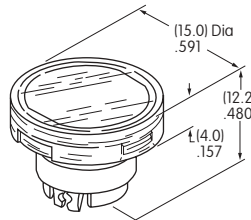
T-1 Bi-pin

Cap for Super Bright LED

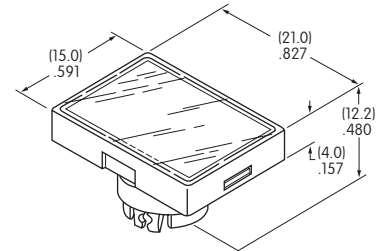
AT3014
Square



AT3015
Round



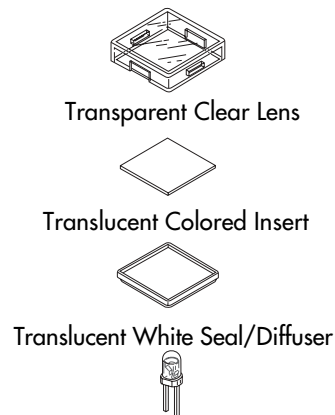
AT3016
Rectangular



Lens/Insert
Colors Available:

JB Clear/White

Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Diffuser)



Super Bright LEDs
AT625 AT631
AT632


BICOLOR LED & LED CAPS

Electrical specifications are determined at a basic temperature of 25°C.

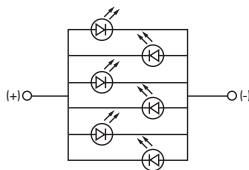
LED circuit is independent of switch operation.

If the source voltage is greater than rated voltage, a ballast resistor is required. The ballast resistor calculation and more lamp detail are shown in the Supplement; see Supplement Index (page Z1).

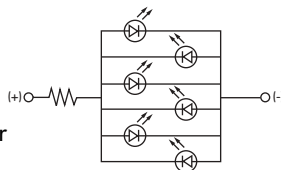
Electrical Specifications for Bicolor LED

Bicolor AT621 2CF Red/Green  T-1 1/2 Bi-pin	Bicolor LED is translucent white in OFF state.		02	05	12	24
	Forward Peak Current	I_{FM}	60mA	60mA	20mA	12mA
	Continuous Forward Current	I_F	45mA	45mA	15mA	10mA
	Forward Voltage	V_F	2.1V	5V	12V	24V
	Current Reduction Rate Above 25°C	ΔI_F	0.80mA/°C	-----	-----	-----
	Ambient Temperature Range		-25°C ~ +50°C			

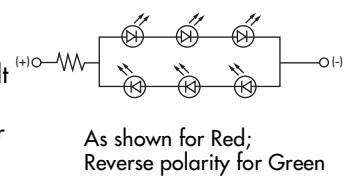
AT621
Bicolor LED
2-volt
6-element
w/o Resistor



AT621
Bicolor LED
5-volt
6-element
with Resistor

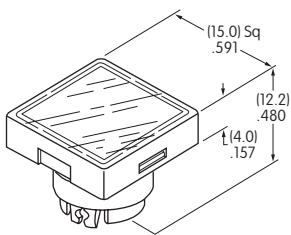


AT621
Bicolor LED
12 & 24-volt
6-element
with Resistor

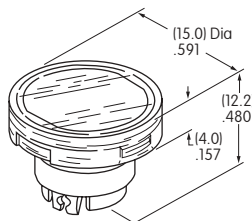


LED Caps

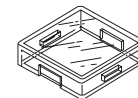
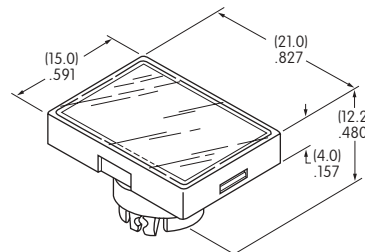
Square
AT3004



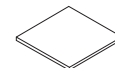
Round
AT3005



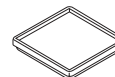
Rectangular
AT3006



Transparent Clear Lens



Transparent Colored Insert



Translucent White Seal Diffuser

Lens/Insert
Colors Available:

JB Clear/White

Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Diffuser)

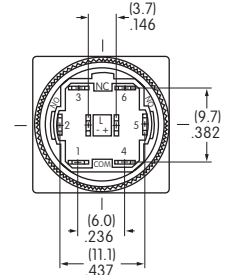
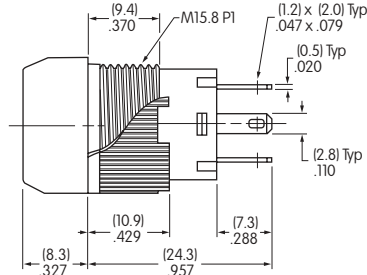
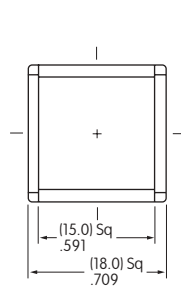


Bicolor AT621

TYPICAL SWITCH DIMENSIONS

Square • Bushing Mounting

Single & Double Pole

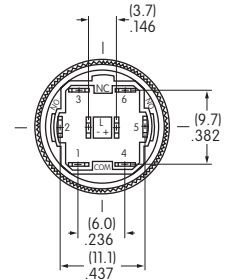
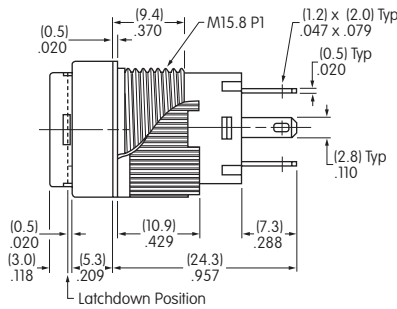
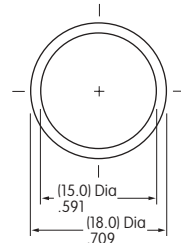


YB15SKW01-12-CB

Single pole models do not have terminals 4, 5, & 6.

Round • Panel Seal

Single & Double Pole

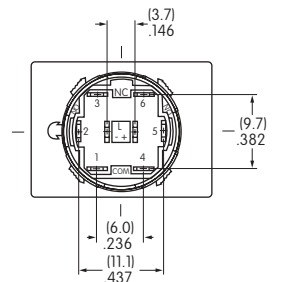
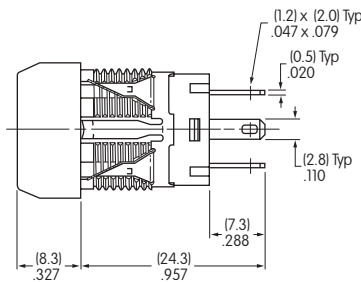
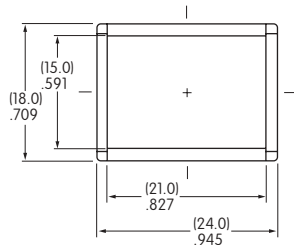


YB25WCKW01-12-EB

Single pole models do not have terminals 4, 5, & 6.

Rectangular • Snap-in Mounting

Single & Double Pole



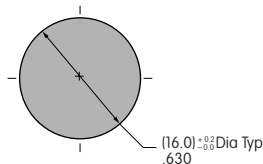
YB15NKW01-C04-JC

Single pole models do not have terminals 4, 5, & 6.

PANEL THICKNESS & CUTOUTS

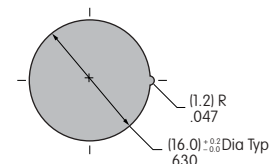
Bushing & Panel Seal Mount

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



Snap-in Mount

Panel Thickness
1.0mm ~ 3.5mm
(.039" ~ .138")



OPTIONAL ACCESSORIES

Splash Covers and Protective Guards reduce the depth of switch behind panel by 1.2mm (.047")

Panel Thickness Range with Splash Cover or Protective Guards

Bushing Mounting
0.5 ~ 3.8mm (.020 ~ .150")

Snap-in Mounting
0.5 ~ 2.3mm (.020 ~ .091") ;

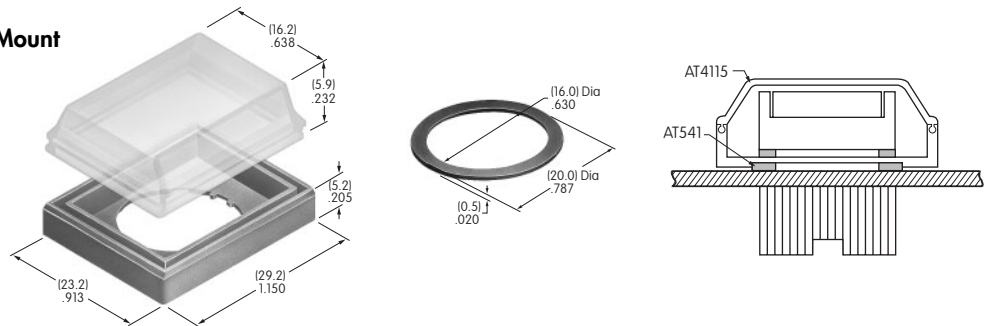
Panel Seal
0.5 ~ 3.0mm (.020 ~ .118")

Dust/Splash Cover

AT4115
Dust Cover for Snap-in or Bushing Mount

AT4115 with AT541 O-ring
Splash Cover for Bushing Mount

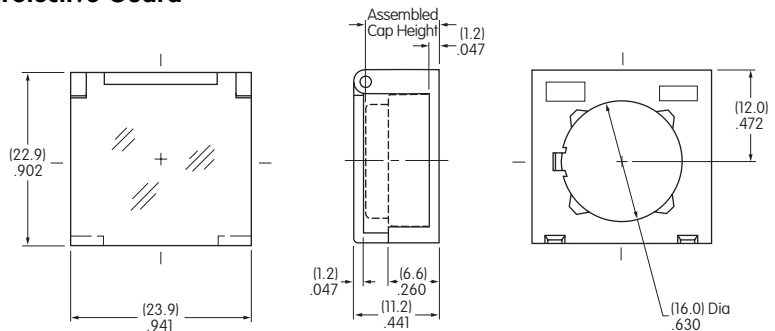
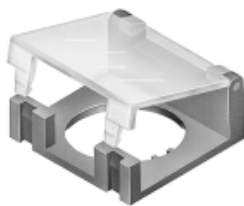
Materials:
Lid: Polyvinyl Chloride
Base: Polyamide
O-ring: Nitrile butadiene rubber



Protective Guard

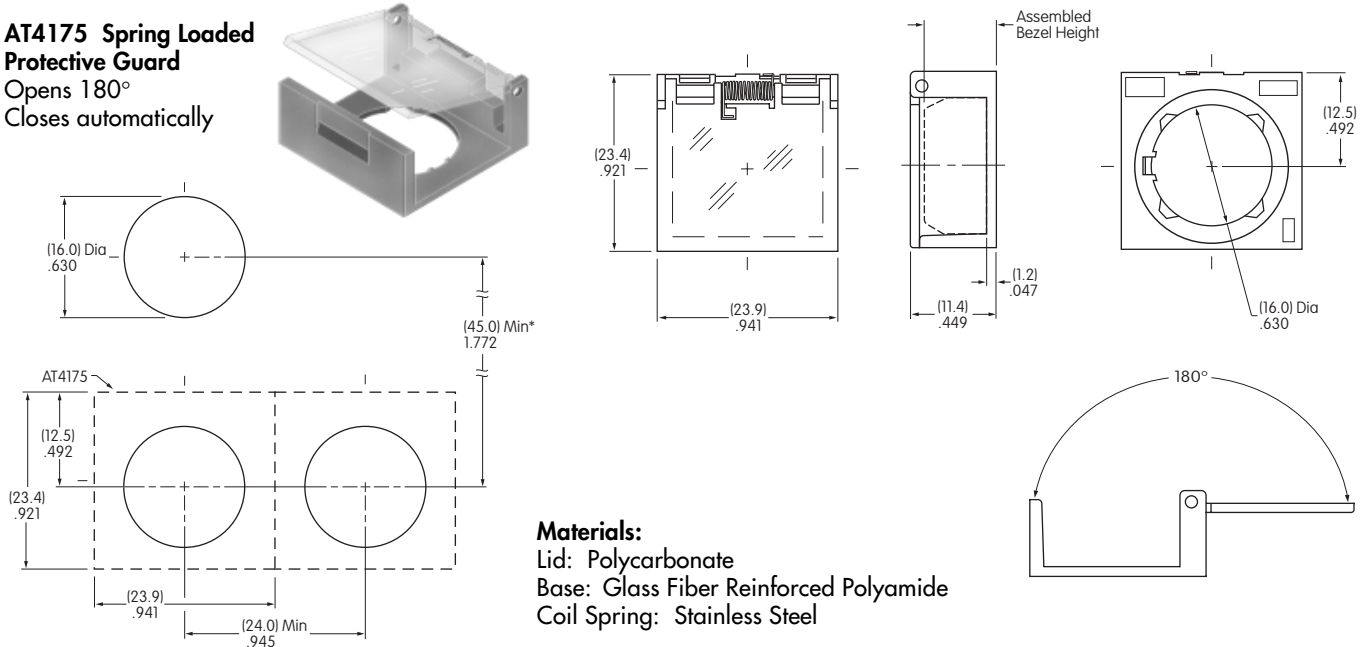
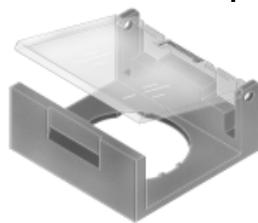
AT4072 Protective Guard
Opens 90°
Closes manually

Materials:
Lid: Polycarbonate
Base: Glass Fiber Reinforced Polycarbonate



Spring Loaded Protective Guard

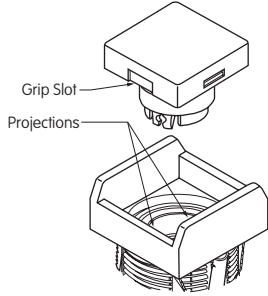
AT4175 Spring Loaded Protective Guard
Opens 180°
Closes automatically



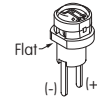
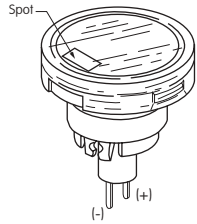
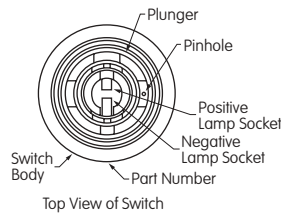
Materials:
Lid: Polycarbonate
Base: Glass Fiber Reinforced Polyamide
Coil Spring: Stainless Steel

ASSEMBLY INSTRUCTIONS

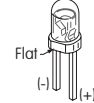
Cap Assembly



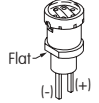
LED Polarity & Orientation in Lamp Socket



LED
AT628
AT634



LEDs
AT625G
AT631B
AT632F

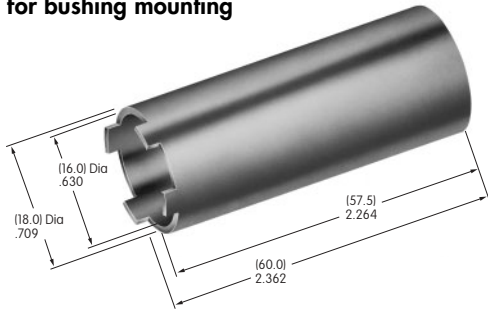


LED
AT621

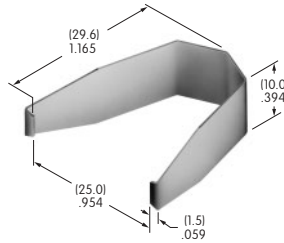
Spot Illuminated Cap
with Built-in LED

Installation Tools

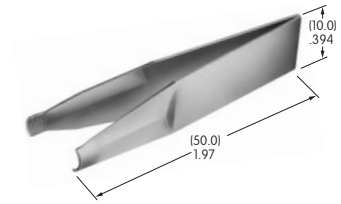
**AT106
Socket Wrench
for bushing mounting**



AT109 Cap Extractor



AT111 Lamping Tool



Note: Overtightening the mounting nut AT092 may damage the switch housing.

LEGENDS

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

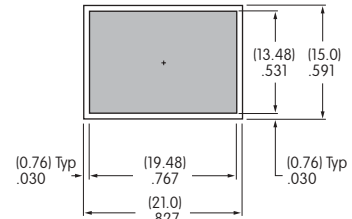
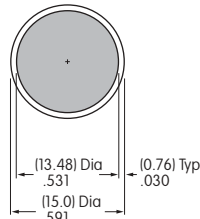
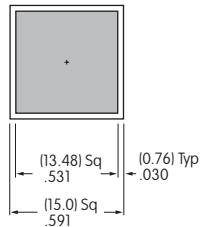
Suggested Printable Area for Lens



Recommended Print Method:

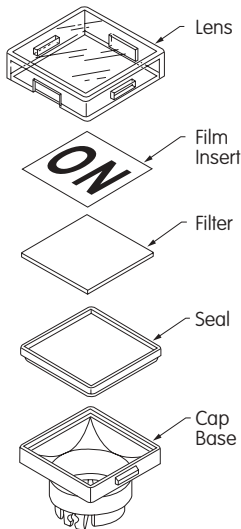
Screen Print or Pad Print

Epoxy based ink is recommended.



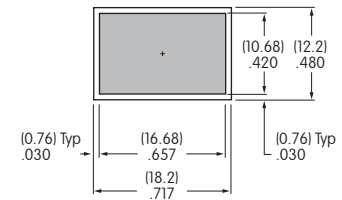
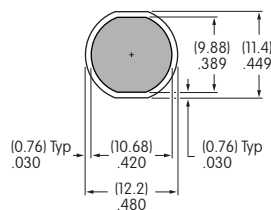
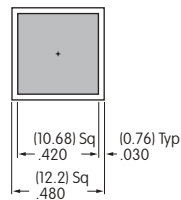
Shaded areas are printable areas.

Suggested Printable Area for Film Insert



Film Material and Thickness:
Clear Polyester, 4 mil max.

Recommended Print Method:
Screen Print
Epoxy based ink is recommended.

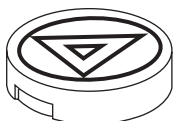


Shaded areas are printable areas.

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 YB 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.