

TYPICAL SWITCH

EB20

11

B

J23

| Poles & Circuits |      |    |      |
|------------------|------|----|------|
| 11               | SPDT | ON | (ON) |
| 65               | SPDT | ON | ON   |
| 61               | DPDT | ON | (ON) |
| 85               | DPDT | ON | ON   |
| ( ) = Momentary  |      |    |      |

| Contacts, Ratings, & Terminals |                                                                   |
|--------------------------------|-------------------------------------------------------------------|
| No Code                        | Silver Contacts; Solder Lug Terminals<br>3A @ 125V AC             |
| G                              | Gold Contacts; Solder Lug Terminals<br>0.4VA max @ 28V AC/DC max  |
| P                              | Silver Contacts; Straight PC Terminals;<br>3A @ 125V AC           |
| PG                             | Gold Contacts; Straight PC Terminals<br>0.4VA max @ 28V AC/DC max |

| Cap Colors |        |
|------------|--------|
| A          | Black  |
| B          | White  |
| C          | Red    |
| E          | Yellow |
| F          | Green  |
| G          | Blue   |
| H          | Gray   |

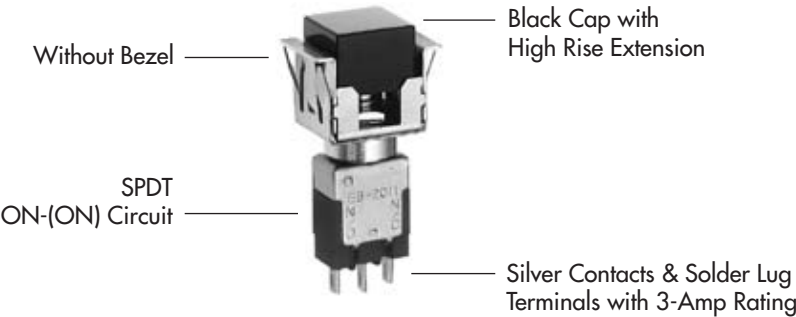
| Cap Extensions & Bezel Types |                |                |                |                               |
|------------------------------|----------------|----------------|----------------|-------------------------------|
| Low Rise                     |                | High Rise      |                | Description                   |
| Momen-<br>tary               | Alter-<br>nate | Momen-<br>tary | Alter-<br>nate |                               |
| J20                          | J30            | J40            | J50            | Without Bezel                 |
| J21                          | J31            | J41            | J51            | Bezel without LED             |
| J22                          | J32            | J42            | J52            | Bezel with 1 Round LED        |
| J23                          | J33            | J43            | J53            | Bezel with 2 Round LEDs       |
| J24                          | J34            | J44            | J54            | Bezel with 2 Rectangular LEDs |

IMPORTANT:

Switches are supplied without UL, cULus & CSA marking unless specified.  
**UL, cULus & CSA 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 WITHOUT BEZEL

EB2011-A-J40



ORDERING EXAMPLES

A

Bezel Colors

Bezel without LEDs

|   |        |   |       |
|---|--------|---|-------|
| A | Black  | F | Green |
| B | White  | G | Blue  |
| C | Red    | H | Gray  |
| E | Yellow |   |       |

Bezel with 1 Round LED

|   |       |
|---|-------|
| A | Black |
|---|-------|

Bezel with 2 Round or Rectangular LEDs

|   |       |
|---|-------|
| A | Black |
|---|-------|

C

F

Led Colors

1 LED

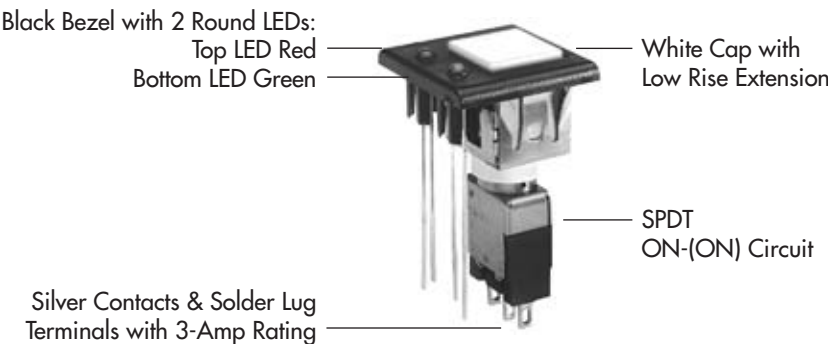
|   |       |
|---|-------|
| C | Red   |
| F | Green |

2 LEDs

| Top LED |        | Bottom LED |        |
|---------|--------|------------|--------|
| C       | Red    | C          | Red    |
| E       | Yellow | E          | Yellow |
| F       | Green  | F          | Green  |

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE WITH BEZEL

EB2011-B-J23ACF



### POLES & CIRCUITS

|      |                  | Plunger Position<br>( ) = Momentary                                                         |                                                                                           | Connected Terminals                                                                         |                                                                                           | Throw & Switch Schematics                                                                   |
|------|------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Pole | Model            | Normal<br> | Down<br> | Normal<br> | Down<br> | Note: Terminal numbers are not actually on the switch.                                      |
| SP   | EB2011<br>EB2065 | ON<br>ON                                                                                    | (ON)<br>ON                                                                                | 2-3                                                                                         | 2-1                                                                                       | SPDT<br> |
| DP   | EB2061<br>EB2085 | ON<br>ON                                                                                    | (ON)<br>ON                                                                                | 2-3 5-6                                                                                     | 2-1 5-4                                                                                   | DPDT<br> |

### CONTACT MATERIALS, RATINGS, & TERMINALS



**Solder Lug  
Silver Contacts**

**Power Level**

**3A @ 125V AC**

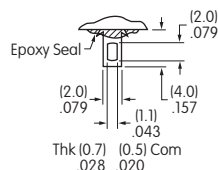


**Solder Lug  
Gold Contacts**

**Logic Level**

**0.4VA maximum @ 28V AC/DC maximum**

Complete explanation of operating range in Supplement section.



**Straight PC  
Silver Contacts**

**Power Level**

**3A @ 125V AC**



**Straight PC  
Gold Contacts**

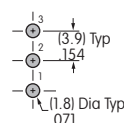
**Logic Level**

**0.4VA maximum @ 28V AC/DC maximum**

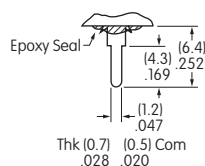
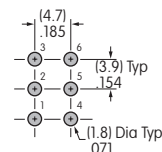
Complete explanation of operating range in Supplement section.

### PCB Footprints

**Single Pole**



**Double Pole**



## CAP COLORS

Factory Assembled on the Switch:

Square snap-on cap AT465, snap-in mounter AT529, and optional bezels which follow.



Black



White



Red



Yellow



Green



Blue



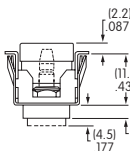
Gray

## CAP EXTENSIONS & BEZEL TYPES

Cap Extension without Bezel

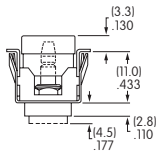
**J20**

Low Rise Momentary



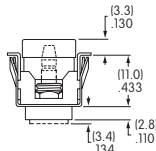
**J30**

Low Rise Alternate



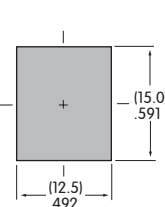
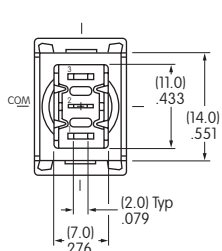
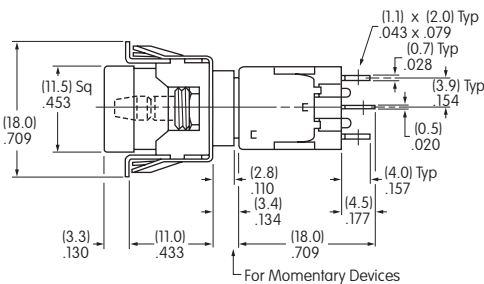
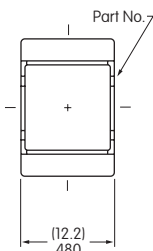
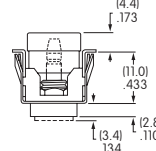
**J40**

High Rise Momentary



**J50**

High Rise Alternate



Maximum Panel Thickness  
.039" ~ .157" (1.0mm ~ 4.0mm)  
Cutout applies to SP & DP



High Rise

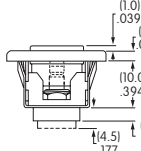
Single Pole

EB2011-A-J40

Cap Extension with Bezel

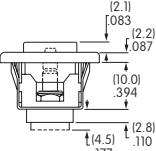
**J21**

Low Rise Momentary



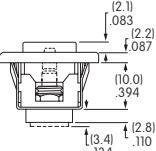
**J31**

Low Rise Alternate



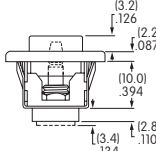
**J41**

High Rise Momentary



**J51**

High Rise Alternate



AT207 Bezel without LED



Yellow



Black



Green



White



Blue



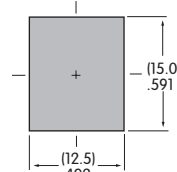
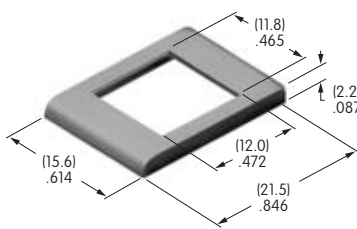
Red



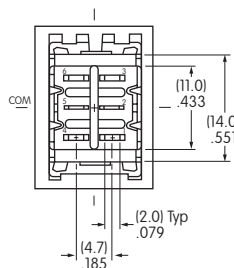
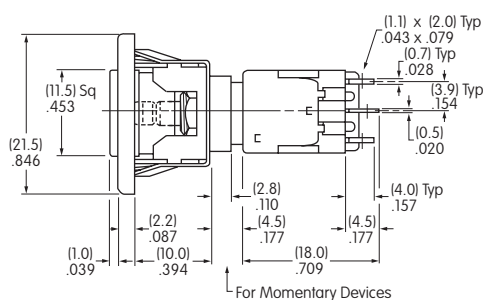
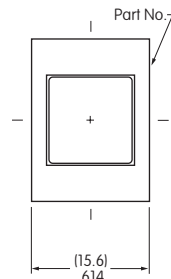
Gray

Material:  
Polycarbonate

Finish:  
Glossy



Maximum Panel Thickness  
.039" ~ .126" (1.0mm ~ 3.2mm)  
Cutout applies to SP & DP



Low Rise

Double Pole

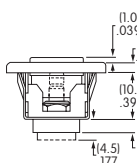
EB2061-B-J21A

### CAP EXTENSIONS & BEZEL TYPES

#### Cap Extension with Bezel

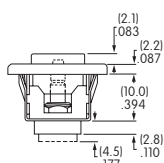
**J22**

Low Rise Momentary



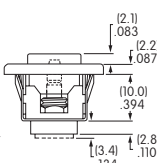
**J32**

Low Rise Alternate



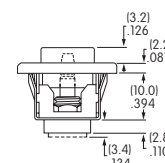
**J42**

High Rise Momentary



**J52**

High Rise Alternate

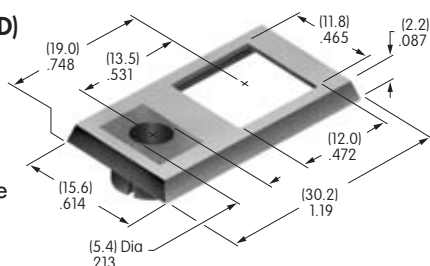


#### AT208 Bezel with 1 Round LED (AT070 LED)

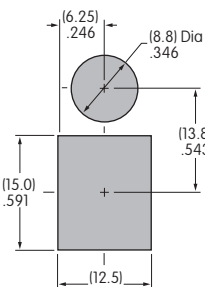
**A**

Black

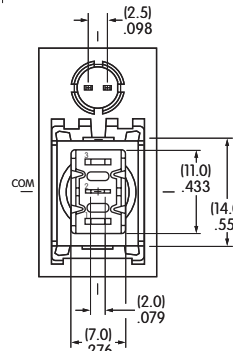
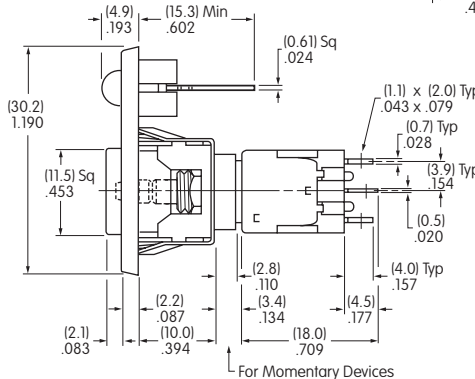
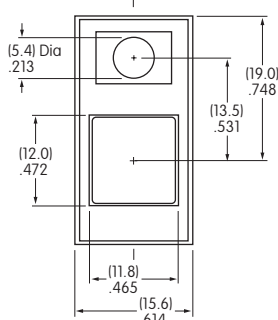
Material: Polycarbonate  
Finish: Glossy



Maximum Panel Thickness  
.039" ~ .126"  
(1.0mm ~ 3.2mm)  
Cutout applies to SP & DP



LED colors and specifications on next to last page of this EB section.



EB2011-B-J42AC

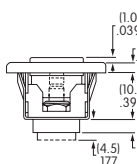
High Rise

Single Pole

#### Cap Extension with Bezel

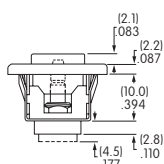
**J23**

Low Rise Momentary



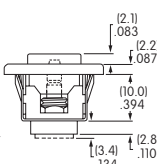
**J33**

Low Rise Alternate



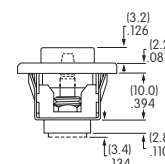
**J43**

High Rise Momentary



**J53**

High Rise Alternate

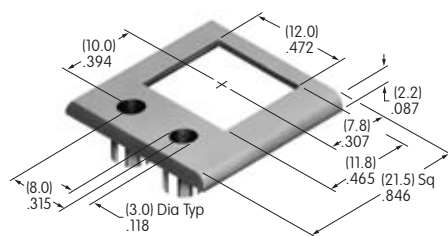


#### AT212 Bezel with 2 Round LEDs (AT617 LEDs)

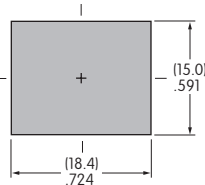
**A**

Black

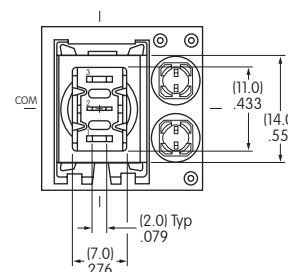
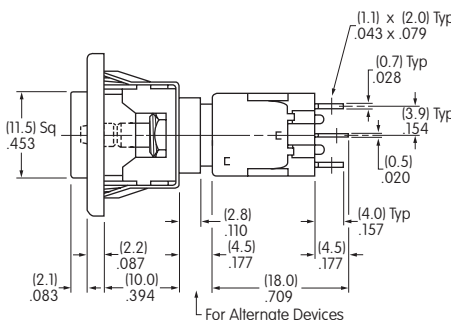
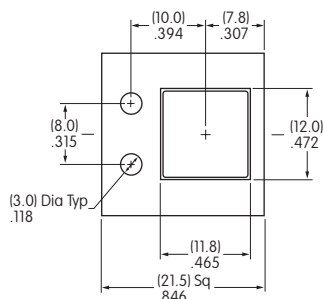
Material: Polycarbonate  
Finish: Glossy



Maximum Panel Thickness  
.039" ~ .126" (1.0mm ~ 3.2mm)  
Cutout applies to SP & DP



LED colors and specifications on next to last page of this EB section.



EB2065-B-J33ACF

Low Rise

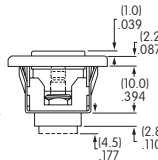
Single Pole

## CAP EXTENSIONS & BEZEL TYPES

### Cap Extension with Bezel

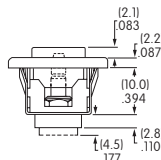
**J24**

Low Rise  
Momentary



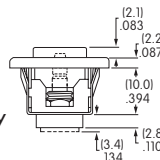
**J34**

Low Rise  
Alternate



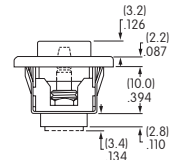
**J44**

High Rise  
Momentary



**J54**

High Rise  
Alternate

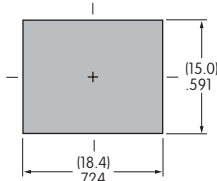
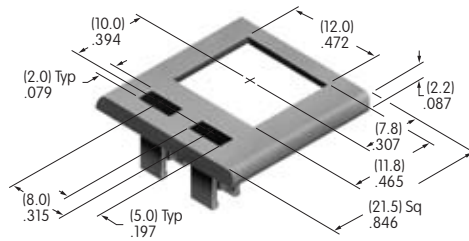


### AT213 Bezel with 2 Rectangular LEDs (AT618 LEDs)

**A**

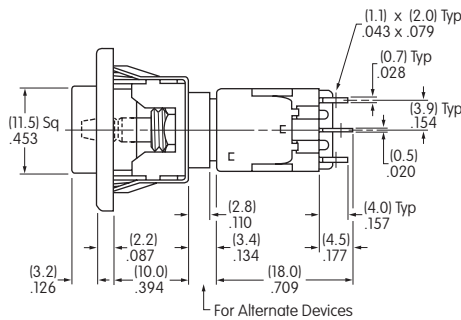
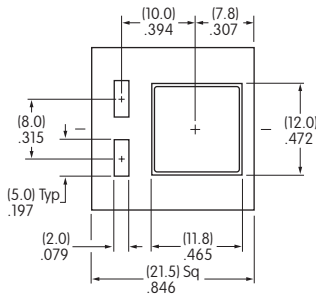
Black

Material: Polycarbonate  
Finish: Glossy

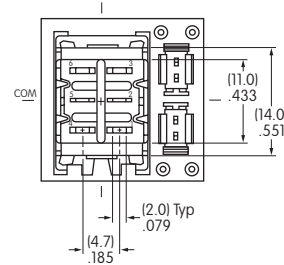


Maximum Panel Thickness  
.039" ~ .126" (1.0mm ~ 3.2mm)  
Cutout applies to SP & DP

LED colors and specifications on next page of this EB section.



High Rise



Double Pole

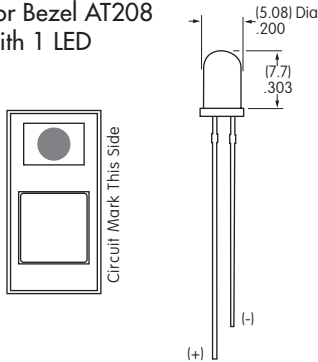


**EB2085-B-J54ACF**

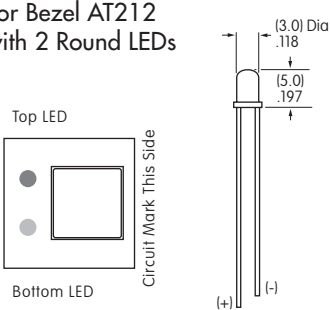
LED COLORS & SPECIFICATIONS

Bezel Orientation on Switch

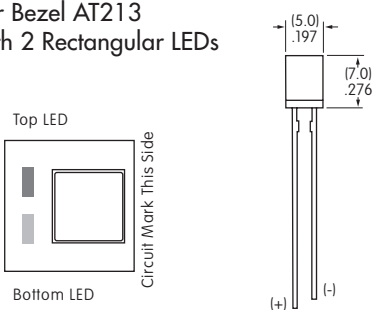
AT070 LED  
For Bezel AT208  
with 1 LED



AT617 LED  
For Bezel AT212  
with 2 Round LEDs



AT618 LED  
For Bezel AT213  
with 2 Rectangular LEDs



Note: Lead lengths may differ from manufacturing lot to lot. The longer lead is the anode (+).

|                                                    |                 | AT070        |            | AT617        |            |            | AT618        |            |            |
|----------------------------------------------------|-----------------|--------------|------------|--------------|------------|------------|--------------|------------|------------|
|                                                    |                 | C            | F          | C            | E          | F          | C            | E          | F          |
| Color                                              |                 | Red          | Green      | Red          | Yellow     | Green      | Red          | Yellow     | Green      |
| Maximum Forward Current                            | I <sub>FM</sub> | 25mA         | 30mA       | 30mA         | 30mA       | 25mA       | 25mA         | 30mA       | 25mA       |
| Typical Forward Current                            | I <sub>F</sub>  | 20mA         | 20mA       | 20mA         | 20mA       | 20mA       | 20mA         | 20mA       | 20mA       |
| Forward Voltage                                    | V <sub>F</sub>  | 2.8V         | 2.1V       | 2.0V         | 2.1V       | 2.2V       | 2.25V        | 2.1V       | 2.2V       |
| Maximum Reverse Voltage                            | V <sub>RM</sub> | 4V           | 5V         | 5V           | 5V         | 5V         | 5V           | 5V         | 5V         |
| Current Reduction Rate Above 25°C                  | ΔI <sub>F</sub> | 0.33 mA/°C   | 0.40 mA/°C | 0.40 mA/°C   | 0.40 mA/°C | 0.33 mA/°C | 0.33 mA/°C   | 0.40 mA/°C | 0.33 mA/°C |
| Ambient Temperature Range (when used with a bezel) |                 | -10° ~ +70°C |            | -15° ~ +70°C |            |            | -25° ~ +70°C |            |            |

The electrical specifications shown are determined at a basic temperature of 25°C.  
LED circuit is independent of switch operation. LED is colored in OFF state.

If the source voltage is greater than the rated voltage of the LED, a ballast resistor must be connected in series with the lamp.  
The ballast resistor calculation and more lamp detail are shown in the Supplement section.

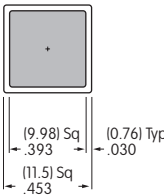
LEGENDS

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

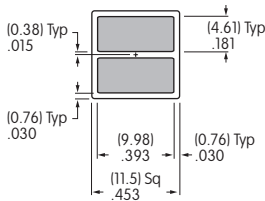


**Recommended Print Method:**  
Screen Print or Pad Print  
Epoxy based ink is recommended.

Suggested Printable Area for Cap



AT465



AT465

Shaded areas are printable areas.

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

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