



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



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* 3A @ 125V AC |
| G | Gold Contacts; Solder Lug Terminals* 0.4VA max @ 28V AC/DC max |
| P | Silver Contacts; Straight PC Terminals; 3A @ 125V AC |
| PG | Gold Contacts; Straight PC Terminals 0.4VA max @ 28V AC/DC max |

Cap Colors

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

* Wire harness & cable assemblies offered only in Americas

Cap Extensions & Bezel Types

| Low Rise | | High Rise | | Description |
|----------------|----------------|----------------|----------------|-------------------------------|
| Momen- tary | Alter- nate | Momen- tary | Alter- 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 |

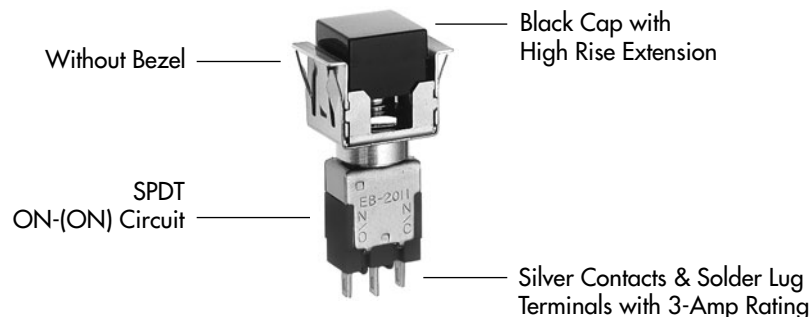
IMPORTANT:



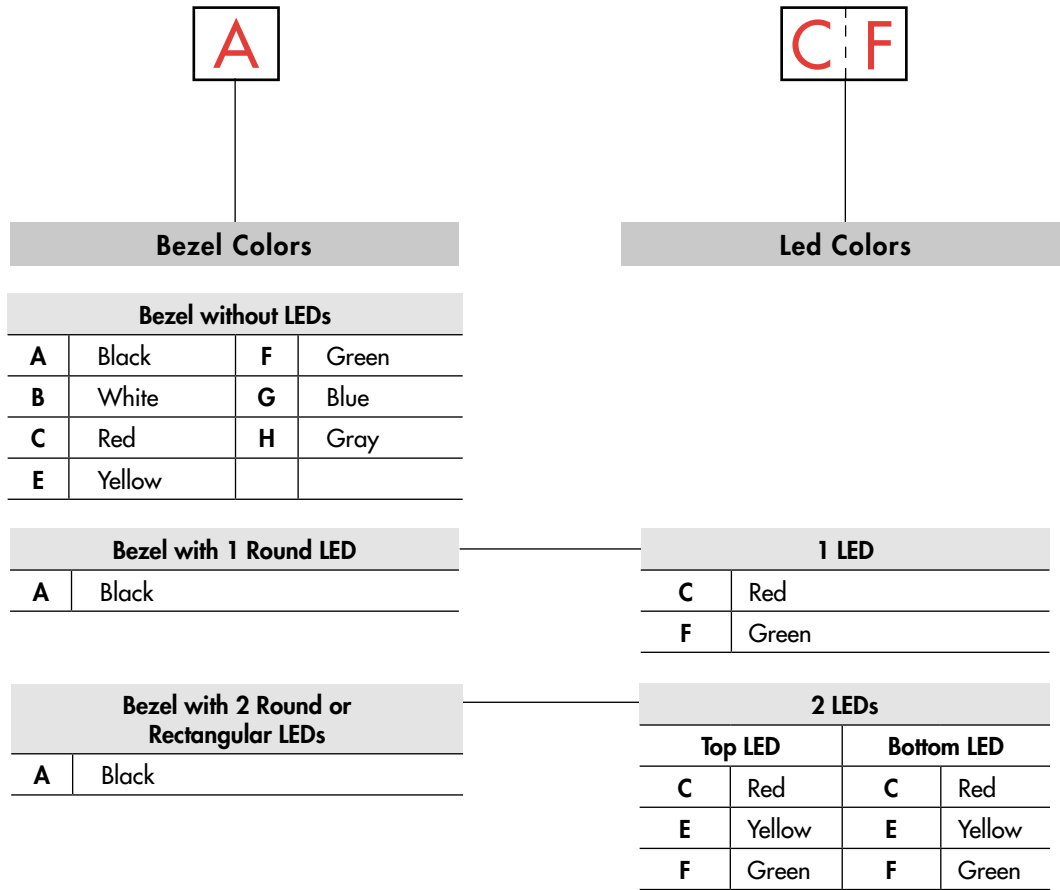
Switches are supplied without UL, cULus & CSA marking unless specified. **UL, cULus & CSA recognized only when ordered with marking on the switch.** Specific models, ratings, & ordering instructions are noted on General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE WITHOUT BEZEL

EB2011-A-J40

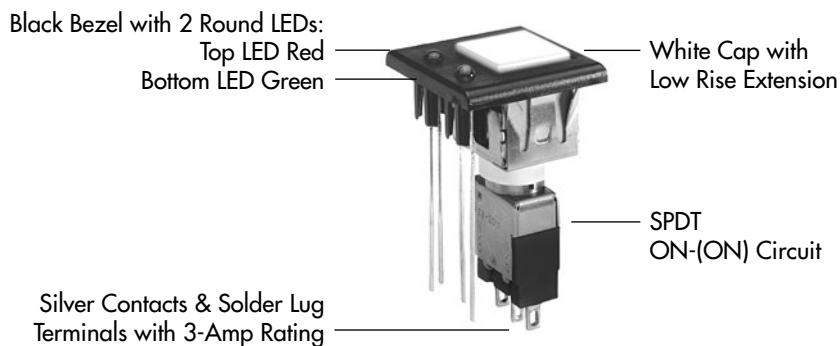


ORDERING EXAMPLES



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE WITH BEZEL

EB2011-B-J23ACF



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

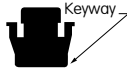

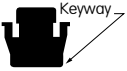


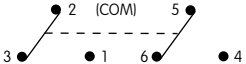
Touch

Indicators

Accessories

Supplement

POLES & CIRCUITS

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

CONTACT MATERIALS, RATINGS, & TERMINALS



**Solder Lug
Silver Contacts**

Power Level

3A @ 125V AC

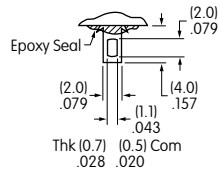


**Solder Lug
Gold Contacts**

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**

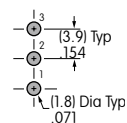
Logic Level

0.4VA maximum @ 28V AC/DC maximum

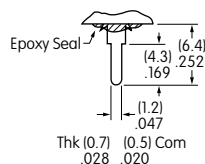
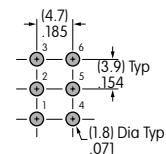
Complete explanation of operating range in Supplement section.

PCB Footprints

Single Pole



Double Pole



CAP COLORS

Factory Assembled on the Switch:
 Square snap-on cap AT465, snap-in moulder
 AT529, and optional bezels which follow.

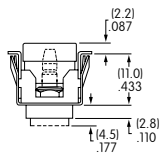
- | | | | |
|----------------|----------------|---------------|-----------------|
| A Black | B White | C Red | E Yellow |
| F Green | G Blue | H Gray | |

CAP EXTENSIONS & BEZEL TYPES

Cap Extension without Bezel

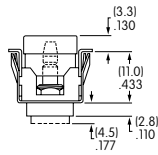
J20

Low Rise Momentary



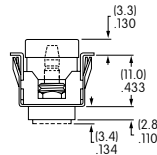
J30

Low Rise Alternate



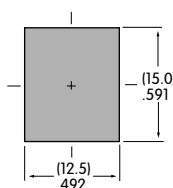
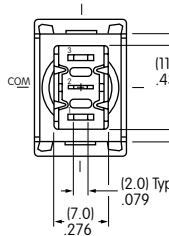
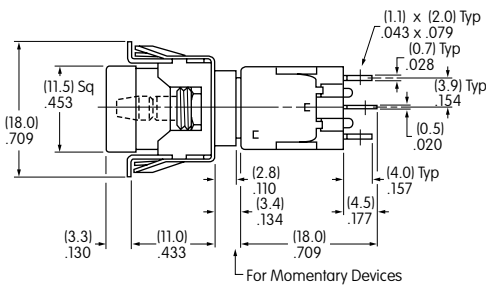
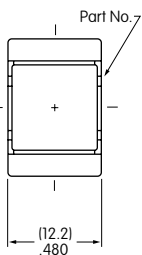
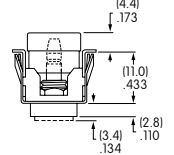
J40

High Rise Momentary



J50

High Rise Alternate



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



High Rise

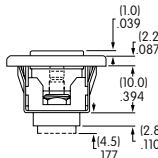
Single Pole

EB2011-A-J40

Cap Extension with Bezel

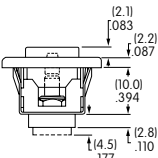
J21

Low Rise Momentary



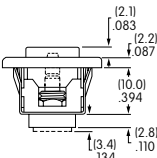
J31

Low Rise Alternate



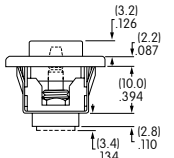
J41

High Rise Momentary



J51

High Rise Alternate

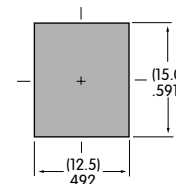
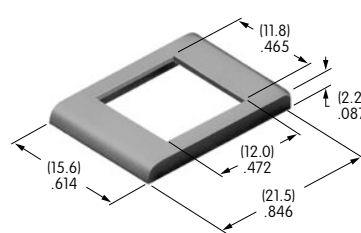


AT207 Bezel without LED

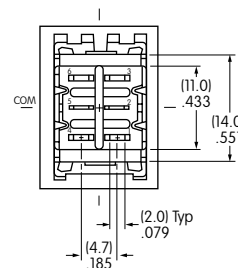
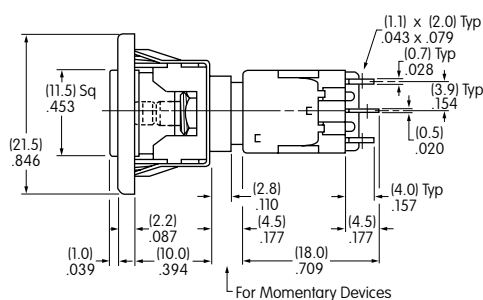
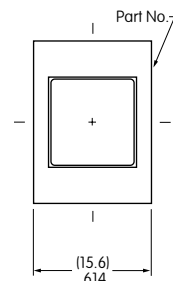
- | | |
|-----------------|----------------|
| E Yellow | |
| A Black | F Green |
| B White | G Blue |
| C Red | H Gray |

Material:
Polycarbonate

Finish:
Glossy



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



Low Rise

Double Pole

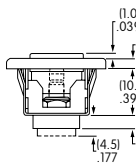
EB2061-B-J21A

CAP EXTENSIONS & BEZEL TYPES

Cap Extension with Bezel

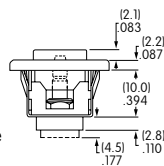
J22

Low Rise Momentary



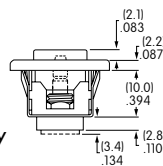
J32

Low Rise Alternate



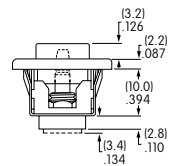
J42

High Rise Momentary



J52

High Rise Alternate

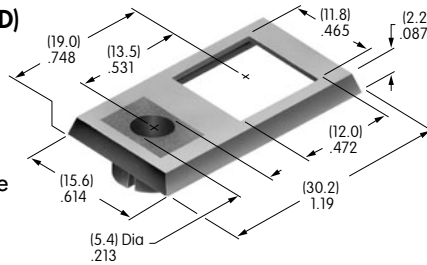


AT208 Bezel with 1 Round LED (AT070 LED)

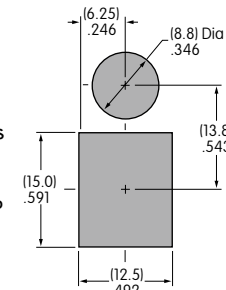
A

Black

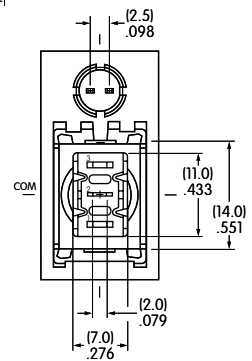
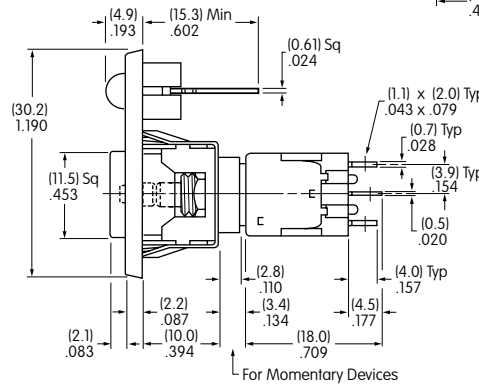
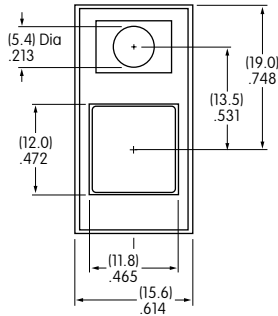
Material: Polycarbonate
Finish: Glossy



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.



High Rise

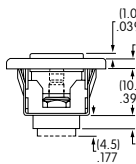
Single Pole

EB2011-B-J42AC

Cap Extension with Bezel

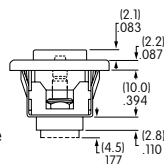
J23

Low Rise Momentary



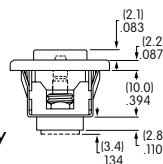
J33

Low Rise Alternate



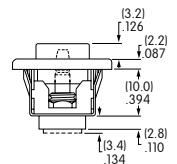
J43

High Rise Momentary



J53

High Rise Alternate

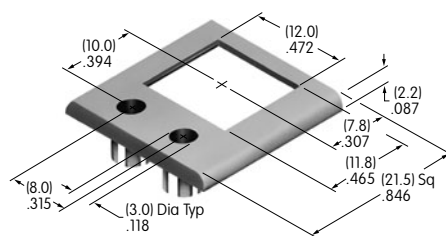


AT212 Bezel with 2 Round LEDs (AT617 LEDs)

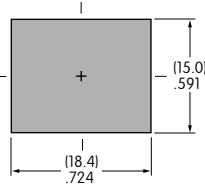
A

Black

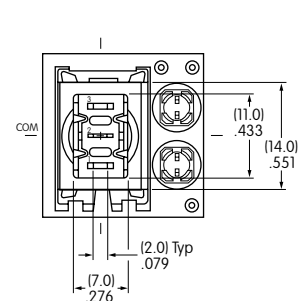
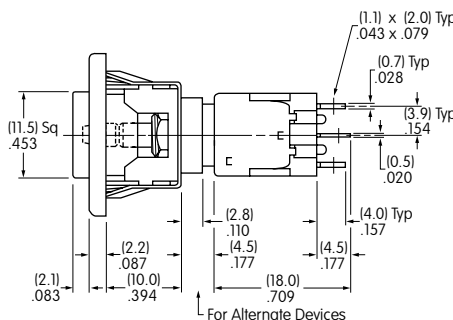
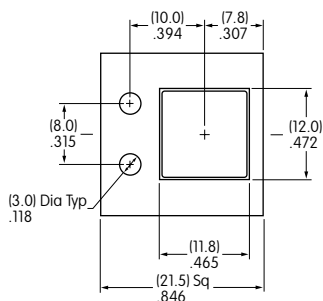
Material: Polycarbonate
Finish: Glossy



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.



Low Rise

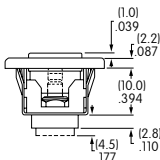
Single Pole

EB2065-B-J33ACF

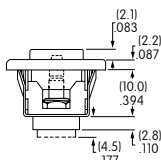
CAP EXTENSIONS & BEZEL TYPES

Cap Extension with Bezel

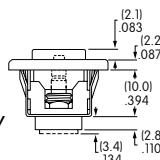
J24
Low Rise Momentary



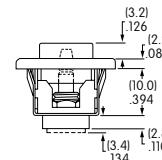
J34
Low Rise Alternate



J44
High Rise Momentary



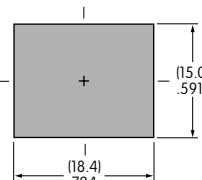
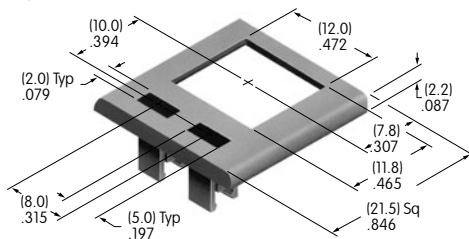
J54
High Rise Alternate



AT213 Bezel with 2 Rectangular LEDs (AT618 LEDs)

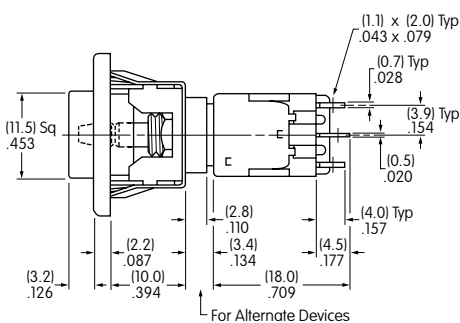
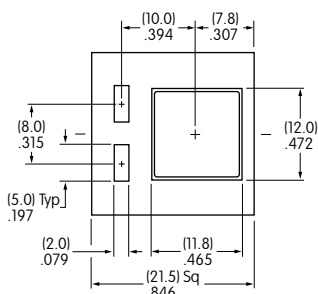
A Black

Material: Polycarbonate
Finish: Glossy

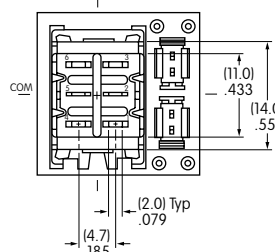


Maximum Panel Thickness
.039" ~ .126" (1.0mm ~ 3.2mm)
Cutout applies to SP & DP

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



High Rise



Double Pole



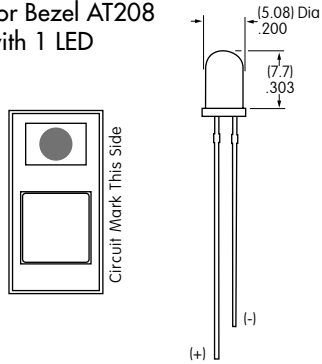
EB2085-B-J54ACF

Toggle
Rockers
Pushbuttons
Illuminated PB
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

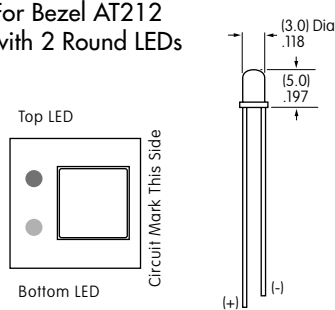
LED COLORS & SPECIFICATIONS

Bezel Orientation on Switch

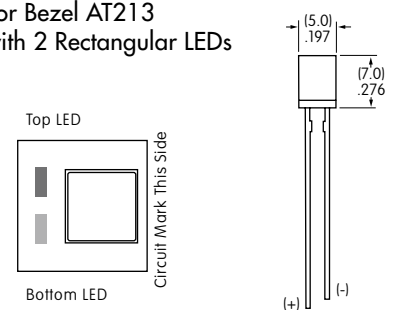
AT070 LED
For Bezel AT208
with 1 LED



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 |
| Forward Peak Current | I_{FM} | 25mA | 30mA | 30mA | 30mA | 25mA | 10mA | 30mA | 30mA |
| Typical Forward Current | I_F | 20mA | 20mA | 20mA | 20mA | 20mA | 8mA | 24mA | 24mA |
| Forward Voltage | V_F | 2.8V | 2.1V | 2.0V | 2.1V | 2.2V | 1.9V | 2.0V | 2.1V |
| Reverse Peak Voltage | V_{RM} | 4V | 5V | 5V | 5V | 5V | 5V | 5V | 5V |
| Current Reduction Rate Above 25°C | ΔI_F | 0.33 mA/°C | 0.40 mA/°C | 0.40 mA/°C | 0.40 mA/°C | 0.33 mA/°C | 0.13 mA/°C | 0.40 mA/°C | 0.40 mA/°C |
| Ambient Temperature Range (when used with a bezel) | | -10° ~ +70°C | | -15° ~ +70°C | | | -15° ~ +70°C | | |

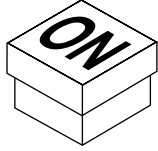
The electrical specifications shown are determined at a basic temperature of 25°C.
LED circuit is independent of switch operation. LED is colored in OFF state.

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.

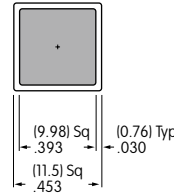
Suggested Printable Area for Cap



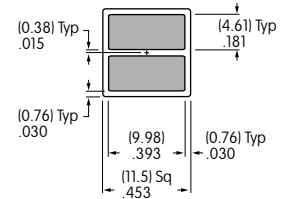
Recommended Print Method:

Screen Print or Pad Print

Epoxy based ink is recommended.



AT465



AT465

Shaded areas are printable areas.

Toggles

Rockers

C Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement