

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

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

#### Cap Colors

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

#### Cap Extensions & Bezel Types

| Low Rise  |           | High Rise |           | Description                   |
|-----------|-----------|-----------|-----------|-------------------------------|
| Momentary | Alternate | Momentary | Alternate |                               |
| 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.

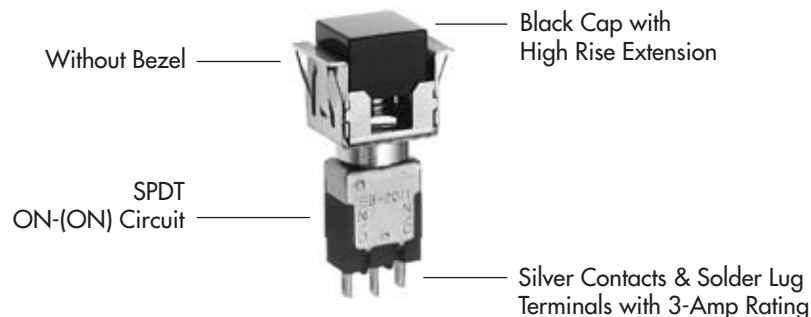
**UL, cULus & CSA recognized only when ordered with marking on the switch.**

Specific models, ratings, & ordering instructions are noted on the General Specifications page.



#### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE WITHOUT BEZEL

**EB2011-A-J40**

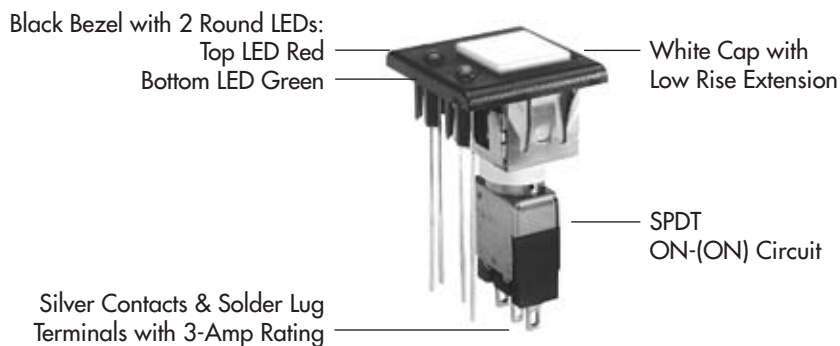


ORDERING EXAMPLES

|   |        |          |       |                   |        |                   |        |
|---|--------|----------|-------|-------------------|--------|-------------------|--------|
| <b>A</b>                                      |        |          |       | <b>C F</b>        |        |                   |        |
| <b>Bezel Colors</b>                           |        |          |       | <b>Led Colors</b> |        |                   |        |
| <b>Bezel without LEDs</b>                     |        |          |       |                   |        |                   |        |
| <b>A</b>                                      | Black  | <b>F</b> | Green |                   |        |                   |        |
| <b>B</b>                                      | White  | <b>G</b> | Blue  |                   |        |                   |        |
| <b>C</b>                                      | Red    | <b>H</b> | Gray  |                   |        |                   |        |
| <b>E</b>                                      | Yellow |          |       |                   |        |                   |        |
| <b>Bezel with 1 Round LED</b>                 |        |          |       | <b>1 LED</b>      |        |                   |        |
| <b>A</b>                                      | Black  |          |       | <b>C</b>          | Red    |                   |        |
|   |        |          |       | <b>F</b>          | Green  |                   |        |
| <b>Bezel with 2 Round or Rectangular LEDs</b> |        |          |       | <b>2 LEDs</b>     |        |                   |        |
|   |        |          |       | <b>Top LED</b>    |        | <b>Bottom LED</b> |        |
| <b>A</b>                                      | Black  |          |       | <b>C</b>          | Red    | <b>C</b>          | Red    |
|   |        |          |       | <b>E</b>          | Yellow | <b>E</b>          | Yellow |
|   |        |          |       | <b>F</b>          | Green  | <b>F</b>          | Green  |

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

## CONTACT MATERIALS, RATINGS, & TERMINALS



Solder Lug  
Silver Contacts

Power Level

3A @ 125V AC

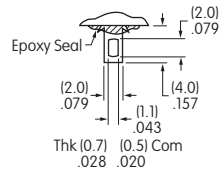


Solder Lug  
Gold Contacts

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

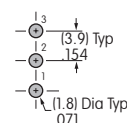
Logic Level

0.4VA maximum @ 28V AC/DC maximum

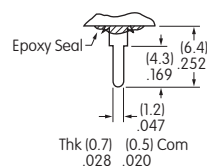
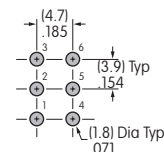
Complete explanation of operating range in Supplement section.

### 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.

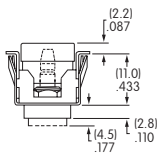
- |                |                |               |                 |
|----------------|----------------|---------------|-----------------|
| <b>A</b> Black | <b>B</b> White | <b>C</b> Red  | <b>E</b> Yellow |
| <b>F</b> Green | <b>G</b> Blue  | <b>H</b> Gray |                 |

## CAP EXTENSIONS & BEZEL TYPES

Cap Extension without Bezel

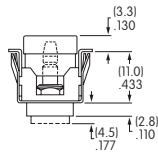
**J20**

Low Rise Momentary



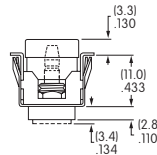
**J30**

Low Rise Alternate



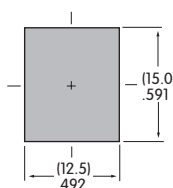
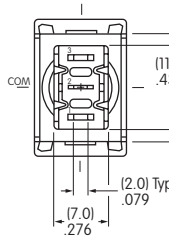
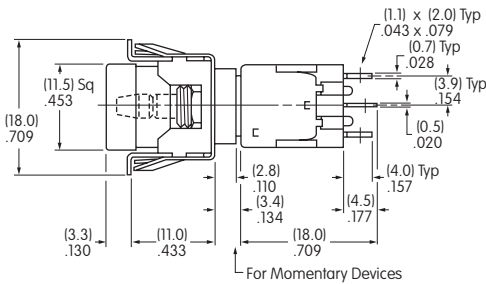
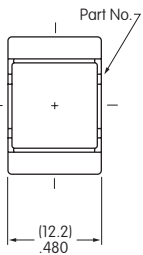
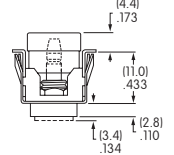
**J40**

High Rise Momentary



**J50**

High Rise Alternate



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



High Rise

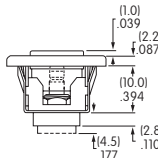
Single Pole

**EB2011-A-J40**

Cap Extension with Bezel

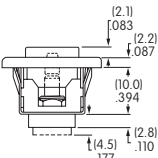
**J21**

Low Rise Momentary



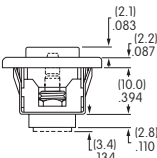
**J31**

Low Rise Alternate



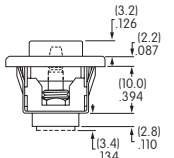
**J41**

High Rise Momentary



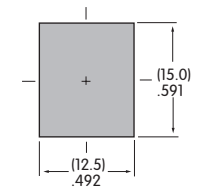
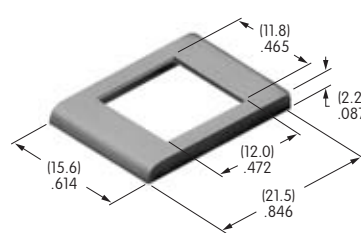
**J51**

High Rise Alternate

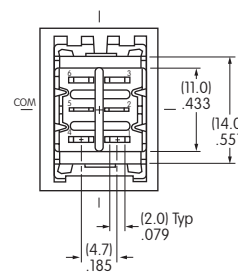
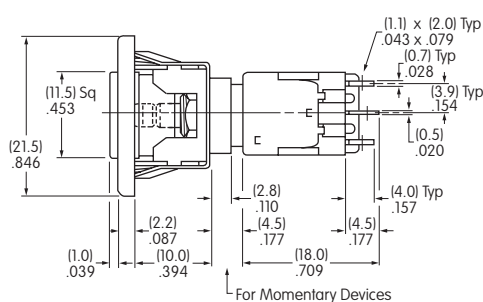
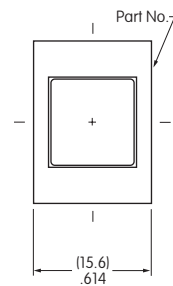


AT207 Bezel without LED

- |                 |                |                            |
|-----------------|----------------|----------------------------|
| <b>E</b> Yellow | <b>F</b> Green | Material:<br>Polycarbonate |
| <b>A</b> Black  | <b>G</b> Blue  |                            |
| <b>B</b> White  | <b>H</b> Gray  | Finish:<br>Glossy          |
| <b>C</b> Red    |                |                            |



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



Low Rise

Double Pole

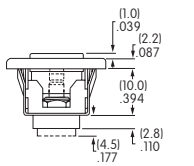
**EB2061-B-J21A**

## CAP EXTENSIONS & BEZEL TYPES

**Cap Extension with Bezel**

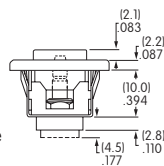
**J22**

Low Rise Momentary



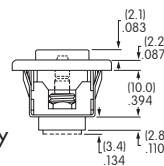
**J32**

Low Rise Alternate



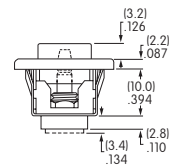
**J42**

High Rise Momentary



**J52**

High Rise Alternate

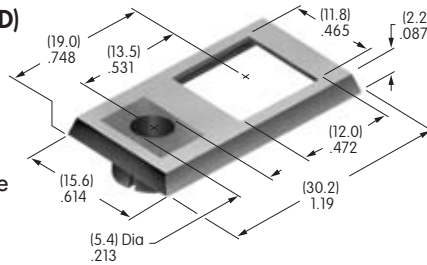


**AT208 Bezel with 1 Round LED (AT070 LED)**

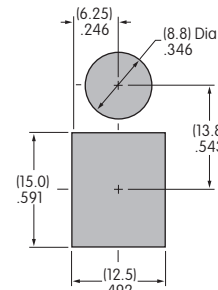
**A**

Black

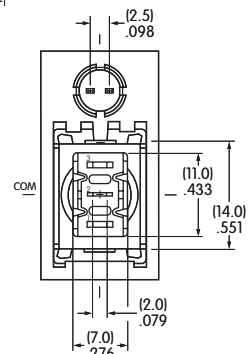
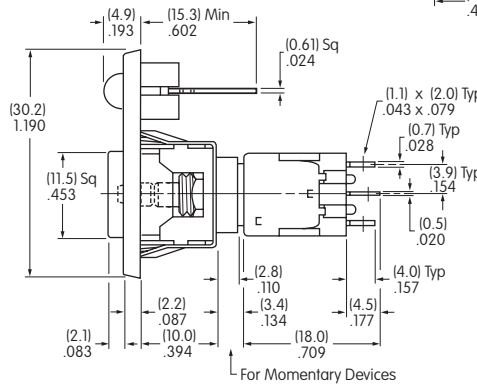
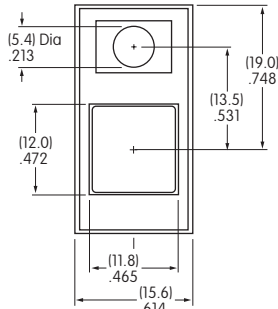
Material: Polycarbonate  
Finish: Glossy



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**

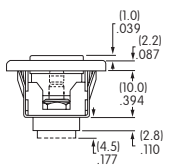
High Rise

Single Pole

**Cap Extension with Bezel**

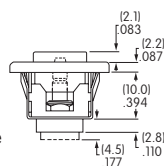
**J23**

Low Rise Momentary



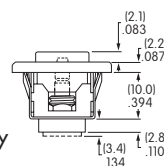
**J33**

Low Rise Alternate



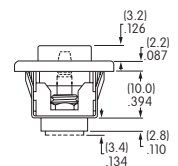
**J43**

High Rise Momentary



**J53**

High Rise Alternate

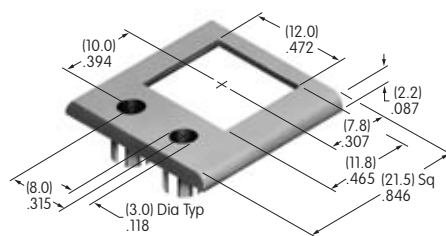


**AT212 Bezel with 2 Round LEDs (AT617 LEDs)**

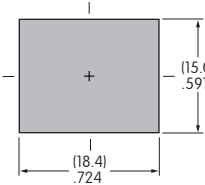
**A**

Black

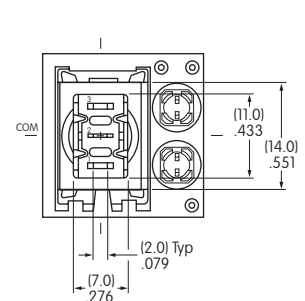
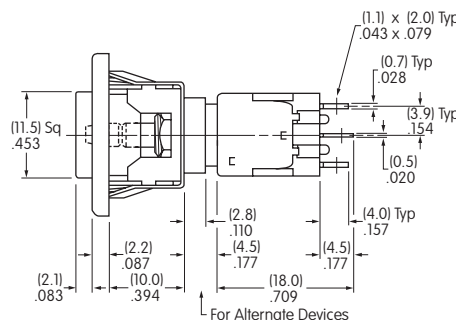
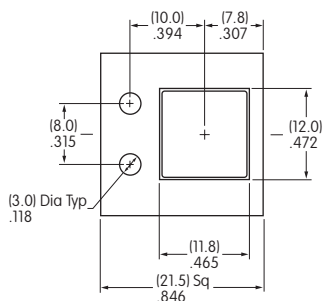
Material: Polycarbonate  
Finish: Glossy



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**

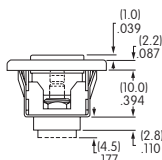
Low Rise

Single Pole

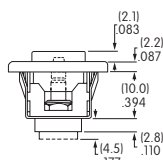
## CAP EXTENSIONS & BEZEL TYPES

Cap Extension with Bezel

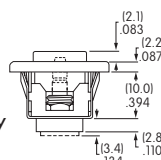
**J24**  
Low Rise Momentary



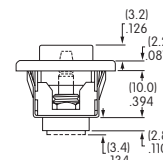
**J34**  
Low Rise Alternate



**J44**  
High Rise Momentary



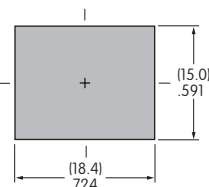
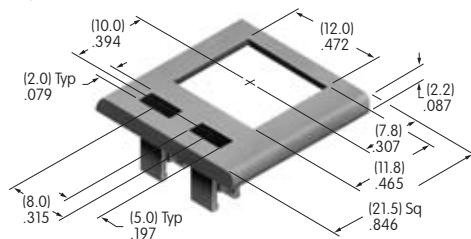
**J54**  
High Rise Alternate



AT213 Bezel with 2 Rectangular LEDs (AT618 LEDs)

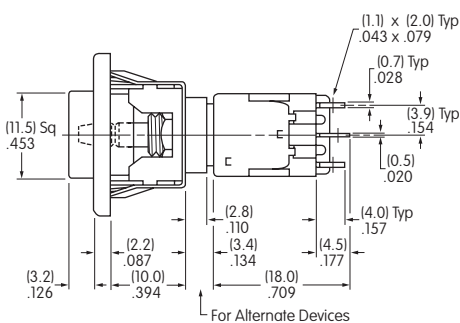
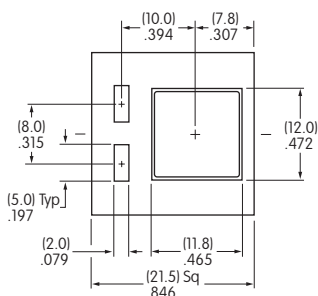
**A** Black

Material: Polycarbonate  
Finish: Glossy

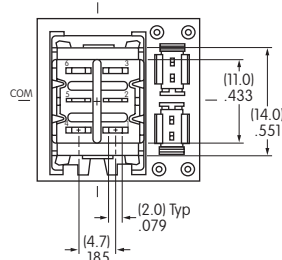


Maximum Panel Thickness  
.039" ~ .126" (1.0mm ~ 3.2mm)  
Cutout applies to SP & DP

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



High Rise



Double Pole



**EB2085-B-J54ACF**

Toggles

Rockers

**C** Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

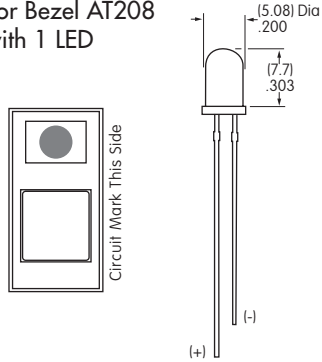
Accessories

Supplement

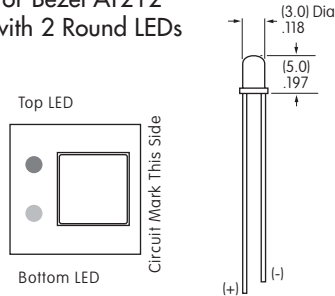
### LED COLORS & SPECIFICATIONS

#### Bezel Orientation on Switch

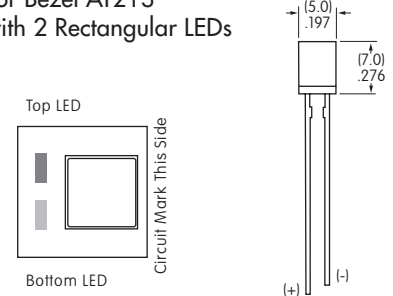
**AT070 LED**  
For Bezel AT208  
with 1 LED



**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      |
| Maximum Forward Current                            | $I_{FM}$     | 25mA         | 30mA       | 30mA         | 30mA       | 25mA       | 25mA         | 30mA       | 25mA       |
| Typical Forward Current                            | $I_F$        | 20mA         | 20mA       | 20mA         | 20mA       | 20mA       | 20mA         | 20mA       | 20mA       |
| Forward Voltage                                    | $V_F$        | 2.8V         | 2.1V       | 2.0V         | 2.1V       | 2.2V       | 2.25V        | 2.1V       | 2.2V       |
| Maximum Reverse Voltage                            | $V_{RM}$     | 4V           | 5V         | 5V           | 5V         | 5V         | 5V           | 5V         | 5V         |
| Current Reduction Rate Above 25°C                  | $\Delta I_F$ | 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.

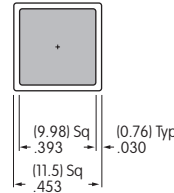
### Suggested Printable Area for Cap



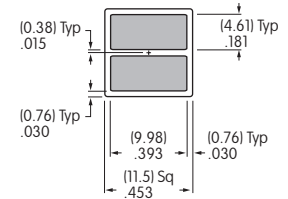
#### Recommended Print Method:

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





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.