



# CTH Series

## Capacitive Touch Sensor Display

### 15.0 x 15.0 x 11.0 mm



CTHS15CIC06 - Blue Capacitive Touch Sensor Through Hole with a Display Size of 0.59 x 0.59 inches (15 x 15 mm) square



### Applications

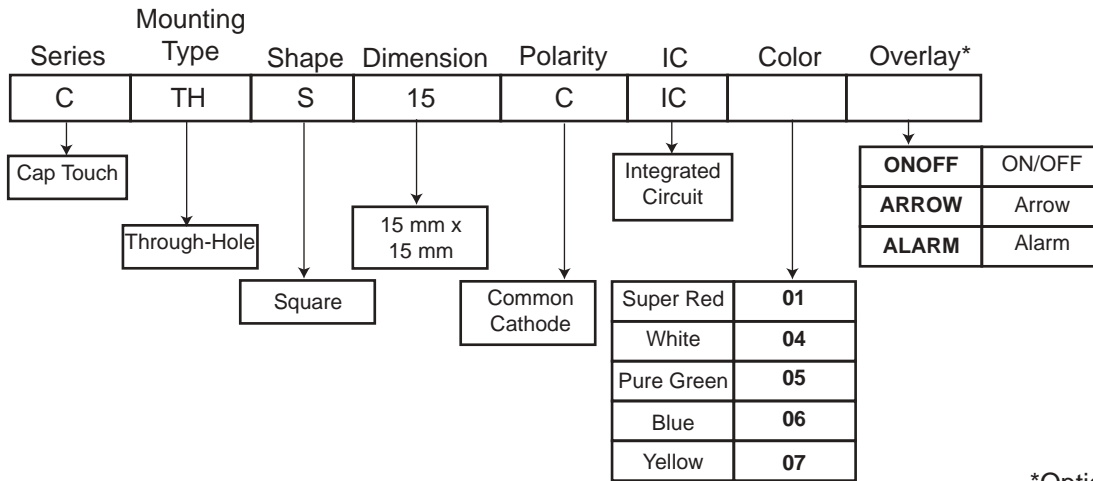
- Mobile communication devices
- Electronic devices
- Point of sale Terminals
- Gaming
- Industrial control displays
- Touch Screen Monitors
- Portable Instruments
- Media Players
- Medical devices
- Appliances and consumer equipments

### Key Features

- Integrated touch sensing and display technology
- Enables the device interface to be more user friendly and intuitive
- Mounting type: through hole (industry standard pitch 0.100")
- Available in one standard size: 15.0mm x 15.00mm x 11.00mm
- Available in 5 colors: super red, white, pure green, blue or yellow
- Touch sensor: integrated circuit (IC)
- Uniform illumination and high optical clarity due to LED technology
- Robust design due to no mechanical moving parts
- Simplifies devices design and manufacturability
- Optional overlay (icons): on/off, arrow, alarm
- Custom overlay icon can be manufactured upon request - contact VCC
- Compliant with RoHS and REACH requirements

## Ordering Data

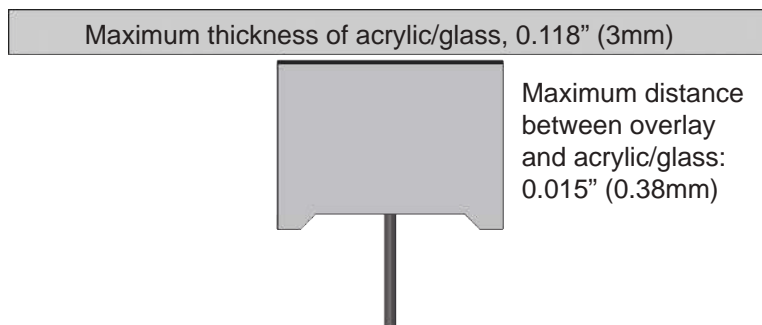
The CTH Series (Cap Touch) is available in a range of standard features and options. To specify your Cap Touch Display, simply choose one option from each column.






\*Optional

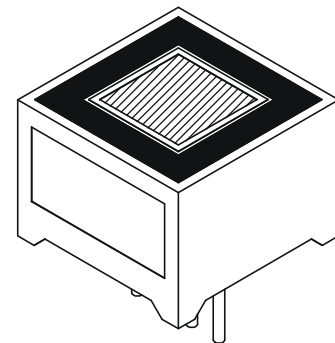
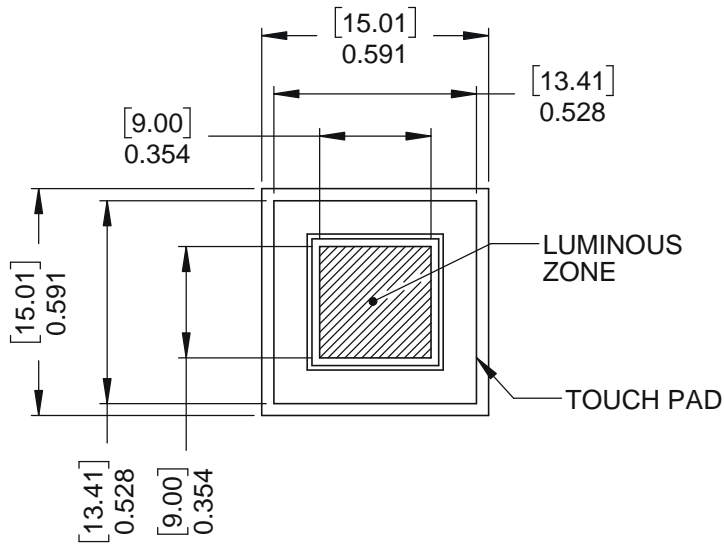
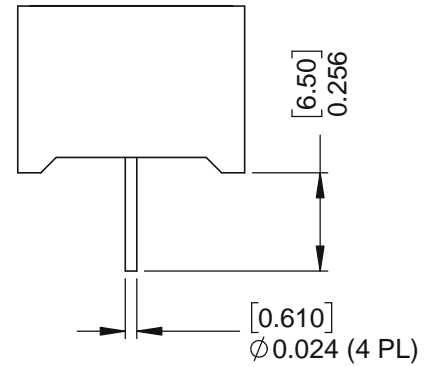
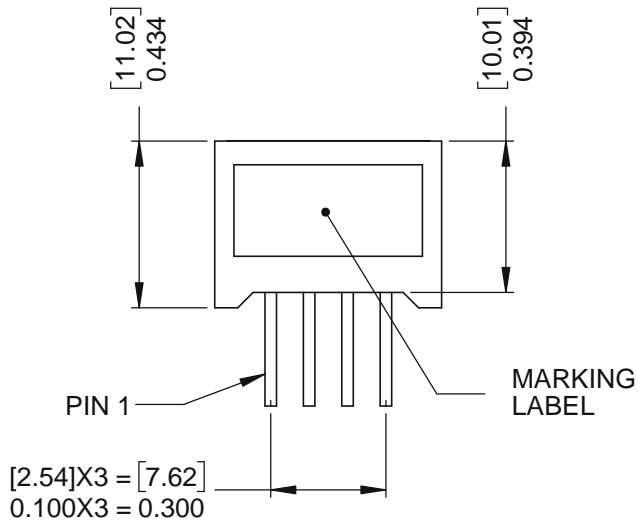
## Overlay

- Different LED colors can indicate the mode in which an electronic device is operating, depending on the icon associated with it.
- Optional graphic overlay made with polished LEXAN™ Polycarbonate 8010 Film 0.007" (0.175 mm) thick has reverse printed translucent white icon, in order to still see it even when the back lighting is off.
- Lexan 8010 is a transparent polycarbonate film and offers hardness, chemical and abrasion resistance, stiffness, and high temperature capability.
- Three standard icons are available: alarm, arrow and on-off. Custom icons are also available upon request.
- Capacitive Touch Display can also be mounted behind clear glass or plastic layer such as polycarbonate or acrylic, as shown in the picture below.

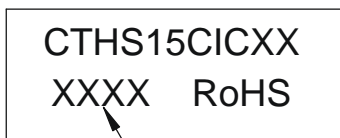


|   |                |
|---|----------------|
|  | Overlay On Off |
|  | Overlay Arrow  |
|  | Overlay Alarm  |

# Package Dimensions



## MARKING LABEL INFO

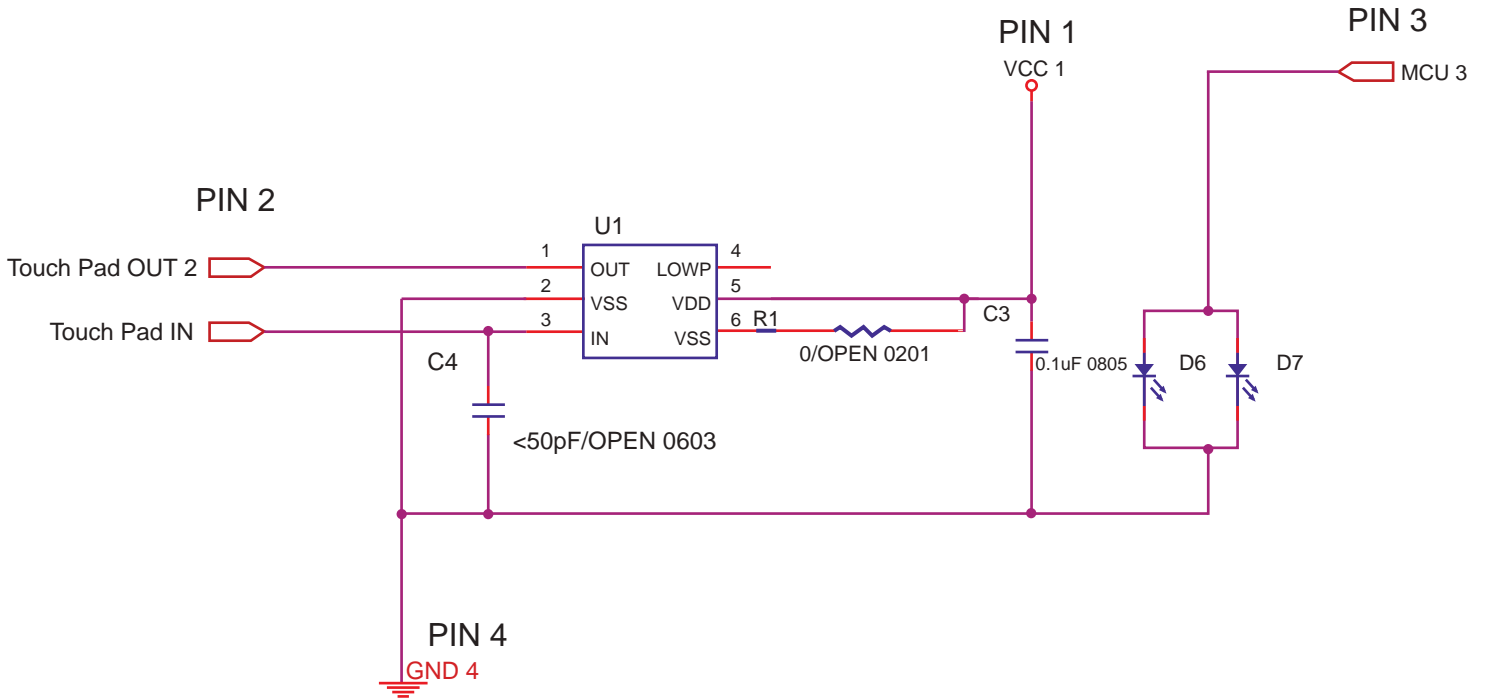


DATE CODE

Dimensions in [mm] inches  
General tolerances unless otherwise specified:

|      | inches     | mm         |
|------|------------|------------|
| .X   | $\pm .020$ | $\pm .508$ |
| .XX  | $\pm .010$ | $\pm .254$ |
| .XXX | $\pm .005$ | $\pm .127$ |

## Internal Circuit Diagram



## Internal IC Electrical Characteristics

( TA = 25°C, unless otherwise specified)

| Symbol | Parameter                         | Condition            | Min.   | Typ. | Max.   | Units. |
|--------|-----------------------------------|----------------------|--------|------|--------|--------|
| VDD    | Supply Voltage                    |                      | 2.0    |      | 5.5    | V      |
| VIH    | High Level Input Voltage          | @ VDD = 5V           | 0.7VDD |      | VDD    | V      |
| VIL    | Low Level Input Voltage           | @ VDD = 5V           |        |      | 0.3VDD | V      |
| IDD1   | Operating Current                 | @ VDD = 5V , no load |        | 16   |        | μA     |
|        |                                   | @ VDD = 3V , no load |        | 3.5  |        |        |
| IDD2   | Operating Current<br>( SLRT=VDD ) | @ VDD = 5V , no load |        | 10.5 |        | μA     |
|        |                                   | @ VDD = 3V , no load |        | 2.5  |        |        |
| IOL    | Low Level Output Current          | @ VDD = 3V, VOL = 1V |        | 30   |        | mA     |
| IOH    | High Level Output Current         | @ VDD = 3V, VOL = 2V |        | 8    |        | mA     |

## Product Specifications

### ABSOLUTE MAXIMUM RATING FOR LED

(Ta=25°C)

| Parameter                                       | Symbol | Rating    | Unit  |
|---|--------|-----------|-------|
|   |        | Blue      |       |
| Power Dissipation Per Dice                      | PAD    | 114       | mW    |
| Derating Liner from 25°C per Dice               | -      | 0.4       | mA/°C |
| Continuous Forward Current Per Dice             | IAF    | 30        | mA    |
| Peak Current Per Dice<br>(duty cycle 1/10,1KHz) | IPF    | 100       | mA    |
| Reverse Voltage Per Dice                        | VR     | 5         | V     |
| Operating Temp.                                 | Topr   | -35 ~ +85 | °C    |
| Storage Temp.                                   | Tstg   | -35 ~ +85 | °C    |

### ELECTRO-OPTICAL CHARACTERISTICS

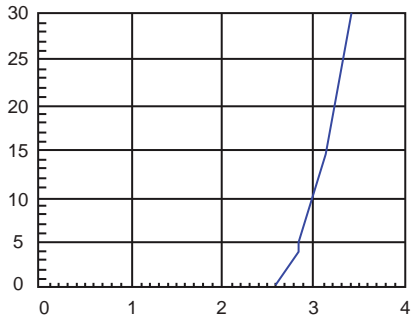
(Ta=25°C)

| Parameter                         | Symbol | Min. | Typ. | Max.  | Unit | Condition  |
|-----------------------------------|--------|------|------|-------|------|------------|
| Luminous Intensity                | Iv     | 44   | 92   | --    | mcd  | IF = 20 mA |
| Forward Voltage                   | VF     | --   | 3.2  | 3.8   | V    | IF = 20 mA |
| Peak Emission Wavelength          | λP     | --   | --   | --    | nm   | IF = 20 mA |
| Dominant Wavelength               | λD     | --   | 470  | --    | nm   | IF = 20 mA |
| Spectrum Radiation Bandwidth      | Δλ     | --   | 30   | --    | nm   | IF = 20 mA |
| Luminous Intensity Matching Ratio | Iv-M   | --   | -    | 2 : 1 | --   | IF = 10 mA |
| Reverse Current                   | IR     |      | -    | 50    | μA   | VR = 5V    |

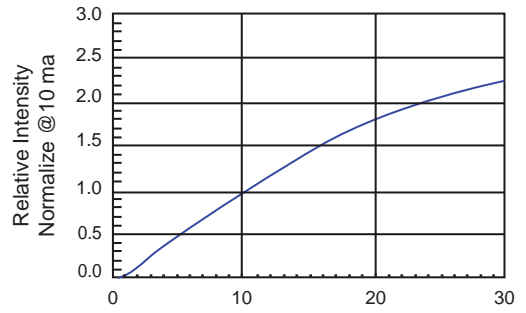
# Product Specifications

## ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

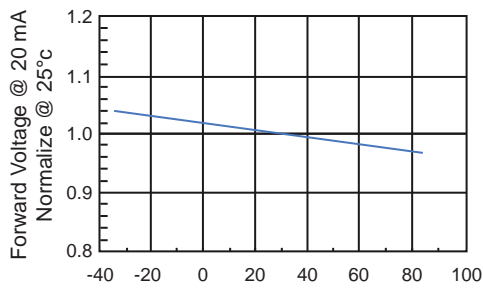
(Ta=25°C)



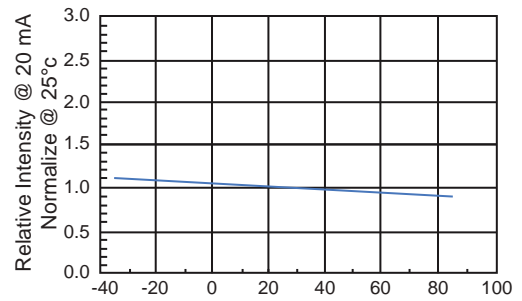
Forward Voltage (V)  
Forward Current vs. Forward Voltage



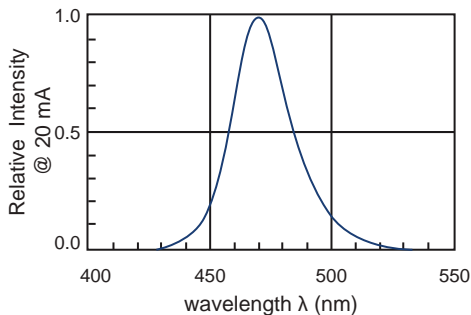
Forward Voltage (mA)  
Relative Intensity vs. Forward Current



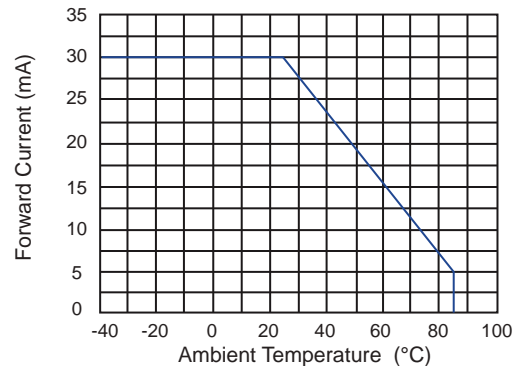
Ambient Temperature (°C)  
Forward Voltage vs. Temperature



Ambient Temperature (°C)  
Relative Intensity vs. Temperature



wavelength λ (nm)  
Relative Intensity vs. Wavelength



Ambient Temperature (°C)  
Forward Current vs. Temperature

# Product Specifications

## SOLDERING CONDITIONS

### 1. Wave Soldering Profile

Distance: 1.6mm min (From Seating Plane)

| Item       | Condition      |             | Note  |
|------------|----------------|-------------|---|
| Preheat    | Temperature T1 | 80 – 120 °C | PWB Temperature<br>(Soldering Side Surface) |
|            | Time t1        | 60 – 180sec |   |
| Solder Dip | Temperature T2 | 230 – 260°C | Bath Temperature                            |
|            | Time t2        | 2 – 4 sec   | Solder Tank Passage Time                    |



### 2. Hand Soldering (Iron Condition)

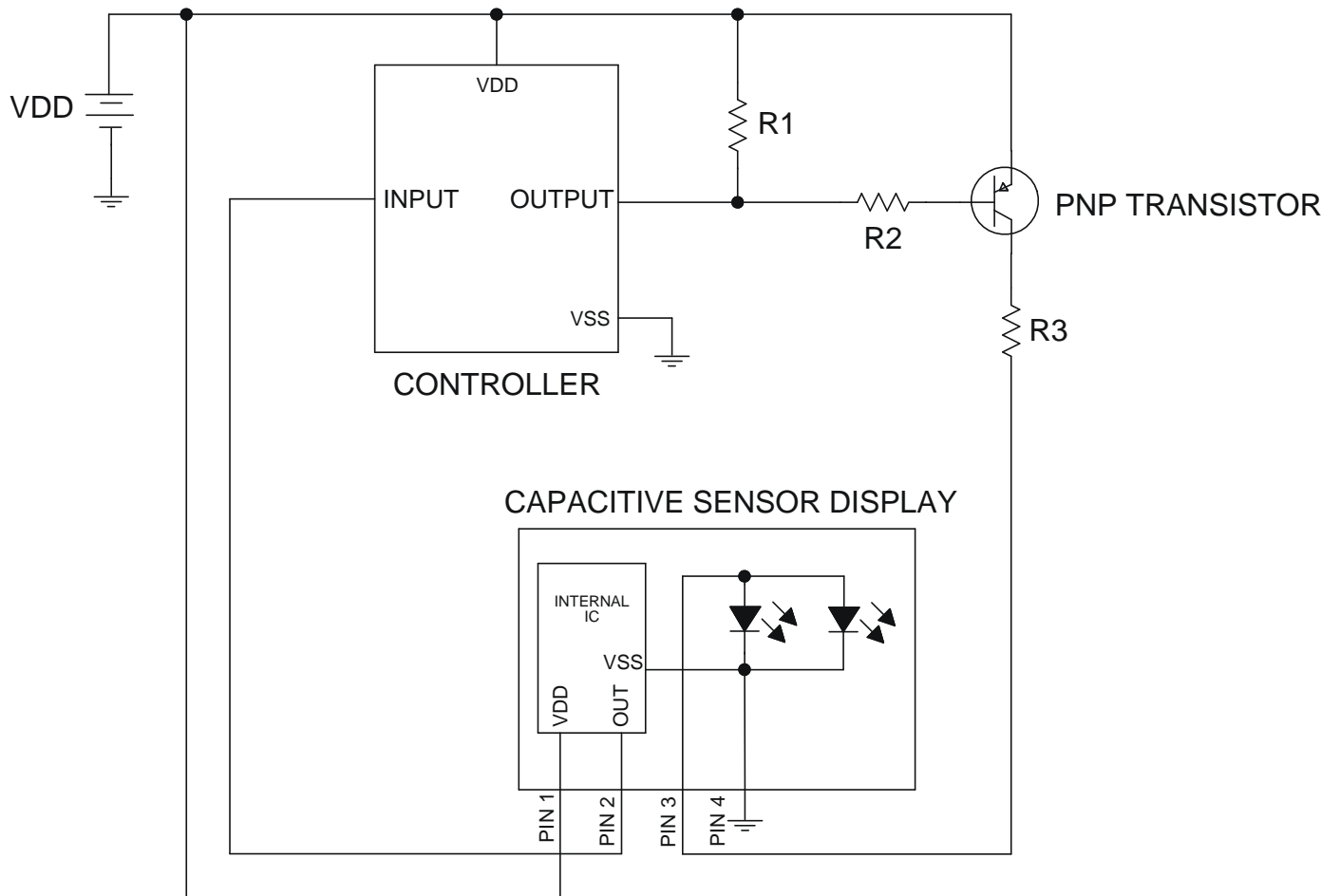
Soldering Iron: 30W Max

Temperature 350°C Max

Soldering Time: 3 Seconds Max (One Time)

Distance: 1.6mm min (From Seating Plane)

## Application Circuit



## Compliances and Approvals







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.