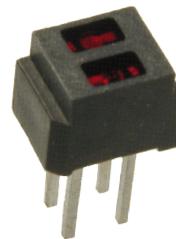


Reflective Object Sensor

OPB606A, OPB606B, OPB606C

OPB607A, OPB607B, OPB607C



Features:

- Choice of phototransistor (OPB606) or photodarlington (OPB607) output
- Unfocused for sensing diffuse surface
- Low cost plastic housing
- Filtered (OPB606, OPB607)

Description:

OPB606 consists of an infrared Light Emitting Diode (LED) and an NPN silicon phototransistor which are mounted "side-by-side" on parallel axes in a black opaque plastic housing.

The **OPB607** consists of an infrared Light Emitting Diode (LED) and an NPN silicon photodarlington which are mounted "side-by-side" on parallel axes in a black plastic housing.

The emitting diode and phototransistor of both the **OPB606** and **OPB607** are encapsulated in a filtering epoxy that reduces ambient light noise. On both models, the phototransistors respond to radiation from the emitter only when a reflective object passes within the field of view.

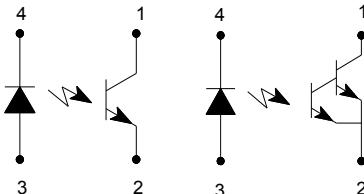
Custom electrical, wire and cabling and connectors are available. Contact your local representative or OPTEK for more information.

Applications:

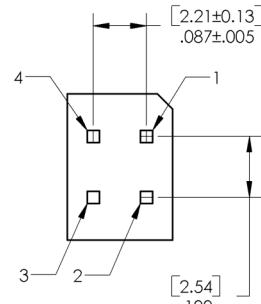
- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Machine safety
- End of travel sensor
- Door sensor

| Pin # | LED | Pin # | Transistor |
|-------|---------|-------|------------|
| 4 | Cathode | 1 | Collector |
| 3 | Anode | 2 | Emitter |

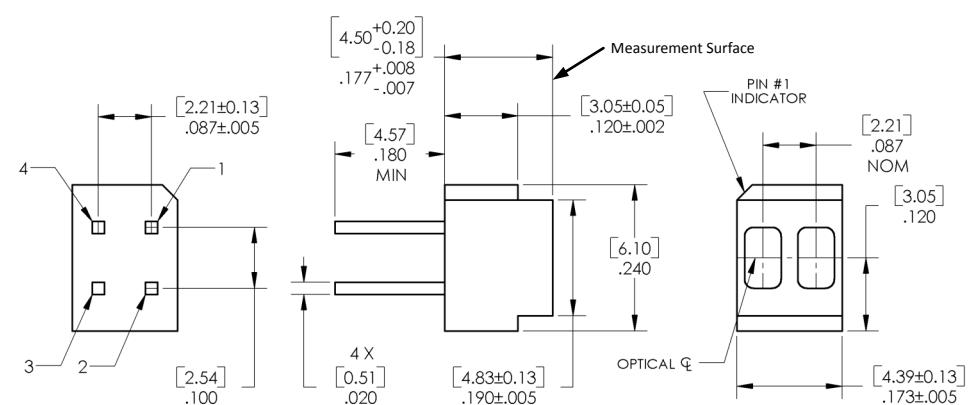
OPB606



OPB607



| Ordering Information | | | | |
|----------------------|---------------------|------------|---------------------------------------|-------------|
| Part Number | LED Peak Wavelength | Sensor | Typical Reflection Distance Inch (mm) | Lead Length |
| OPB606A | 935 nm | Transistor | 0.050" (1.27mm) | 0.18" (Min) |
| OPB606B | | | | |
| OPB606C | | Darlington | | |
| OPB607A | 935 nm | Transistor | 0.050" (1.27mm) | 0.18" (Min) |
| OPB607B | | | | |
| OPB607C | | Darlington | | |



RoHS

DIMENSIONS ARE IN: [MILLIMETERS]
[INCHES]

CONTAINS POLYSULFONE

To avoid stress cracking, we suggest using ND Industries' Vibra-Tite for thread-locking. Vibra-Tite evaporates fast without causing structural failure in OPTEK's molded plastics.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Reflective Object Sensor

OPB606A, OPB606B, OPB606C

OPB607A, OPB607B, OPB607C



Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)

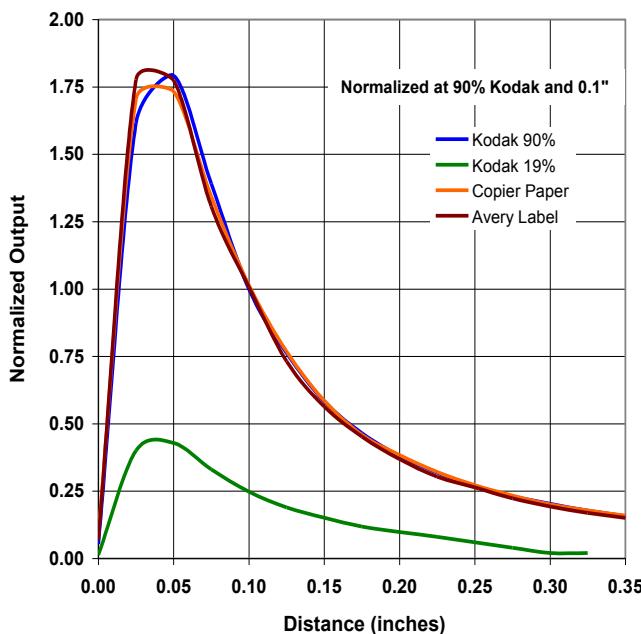
| | |
|---|------------------|
| Storage & Operating Temperature Range | -40° C to +85° C |
| Lead Soldering Temperature [1/16 inch (1.6 mm) from the case for 5 sec. with soldering iron] ⁽¹⁾ | 260° C |
| Input Diode | |
| Forward DC Current | 50 mA |
| Peak Forward Current (1 μ s pulse width, 300 pps) | 3 A |
| Reverse DC Voltage | 2 V |
| Power Dissipation ⁽²⁾ | 75 mW |
| Output Phototransistor (OPB606) / Output Photodarlington (OPB607) | |
| Collector-Emitter Voltage OPB606A, OPB606B, OPB606C OPB607A, OPB607B, OPB607C | 30 V 15 V |
| Emitter-Collector Voltage | 5 V |
| Collector DC Current OPB606A, OPB606B, OPB606C OPB607A, OPB607B, OPB607C | 25 mA 125 mA |
| Power Dissipation ⁽²⁾ | 75 mW |

Notes:

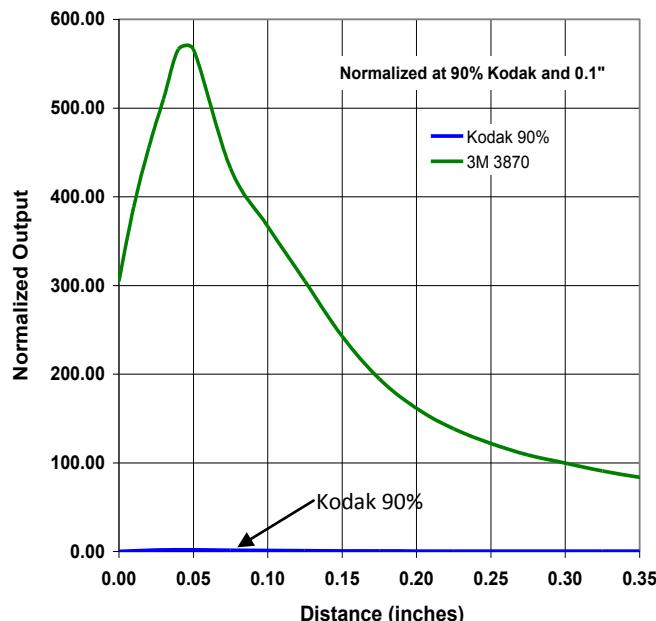
(1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.

(2) Derate linearly 1.25 mW/°C above 25° C.

OPB606 - Output vs Distance



OPB606 - Output vs Distance (Retro)



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Reflective Object Sensor

OPB606A, OPB606B, OPB606C

OPB607A, OPB607B, OPB607C



Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise noted)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|---|-----------------|-----|-----|-----|---------------|-----------------------|
| Input Diode (See OP165 for additional information) | | | | | | |
| V_F | Forward Voltage | - | - | 1.7 | V | $I_F = 20 \text{ mA}$ |
| I_R | Reverse Current | - | - | 100 | μA | $V_R = 2 \text{ V}$ |

Output Phototransistor (see OP268 for additional information—for reference only)

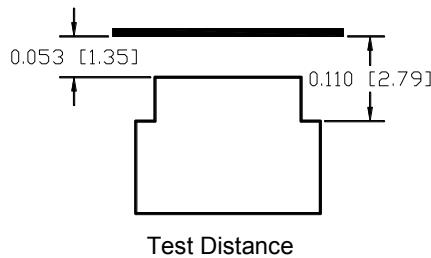
| | | | | | | |
|-----------------------------|---|----------|--------|------------|----------|---------------------------------|
| $V_{(\text{BR})\text{CEO}}$ | Collector-Emitter Breakdown Voltage OPB606 OPB607 | 30 15 | - | - | V V | $I_C = 100 \mu\text{A}$ |
| $V_{(\text{BR})\text{ECO}}$ | Emitter-Collector Breakdown Voltage | 5 | - | - | V | $I_E = 100 \mu\text{A}$ |
| I_{CEO} | Collector Dark Current OPB606 OPB607 | - - | - - | 100 250 | nA nA | $V_{CE} = 5 \text{ V}, I_F = 0$ |

Combined (see OP508 or OP509 for additional information—for reference only)

| | | | | | | |
|----------------------|--|-------------------------------------|----------------------------|-------------------------------|---|---|
| $V_{CE(\text{SAT})}$ | Collector-Emitter Saturation Voltage OPB606 OPB607 | - - | - - | 0.4 1.1 | V | $I_F = 20 \text{ mA}, I_C = 100 \mu\text{A}, d = 0.053'' (1.45 \text{ mm})^{(1)(2)}$ $I_F = 20 \text{ mA}, I_C = 2 \text{ mA}, d = 0.053'' (1.45 \text{ mm})^{(1)(2)}$ |
| $I_{C(\text{ON})}$ | On-State Collector Current OPB606A OPB606B OPB606C OPB607A OPB607B OPB607C | 500 350 200 25 17 10 | - - - - - - | - - - mA mA mA | μA μA μA mA mA mA | $I_F = 20 \text{ mA}, V_{ce} = 5 \text{ V}, d = 0.053'' (1.45 \text{ mm})^{(1)(2)}$ |
| $I_{C(\text{OFF})}$ | Off-State Collector Current OPB606 OPB607 | - - | - - | 200 10 | nA μA | $V_{CE} = 5 \text{ V}, I_F = 20 \text{ mA}^{(3)}$ $V_{CE} = 5 \text{ V}, I_F = 20 \text{ mA}^{(3)}$ |

Notes:

- (1) "d" is the distance from the assembly measurement surface to the reflective surface.
- (2) Measured using Eastman Kodak neutral white test card with 90% diffuse reflectance as a reflecting surface. Reference: Eastman Kodak, Catalog # E 152 7795.
- (3) On OPB606, off-state collector current $I_{C(\text{OFF})}$ is measured with no reflective surface in the optical path. On OPB607, Crosstalk (I_{Cx}) is the collector current measured with the indicated current in the input diode and with no reflecting surface.
- (4) All parameters tested using pulse techniques.



General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.



**Стандарт
Электрон
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литер Н,
помещение 100-Н Офис 331