

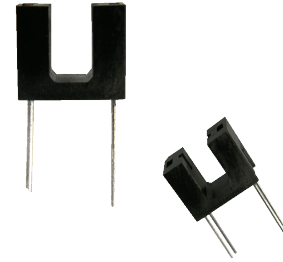
Slotted Optical Switch

OPB200



Features:

- Housing material Opaque to visible and infrared light
- Non-contact switching
- Printed PCBoard mount
- 0.200" (5.1 mm) slot width, 0.320" (8.1 mm) slot depth



Description:

The **OPB200** contains an Infrared LED (890 nm) and a Phototransistor paired in a plastic housing.

The housing is an opaque grade of injection-molded plastic, which minimizes the assembly's sensitivity to visible and near-infrared radiation. Each device has approximately 0.060" [1.52 mm] diameter lenses providing the versatility necessary for general switching applications.

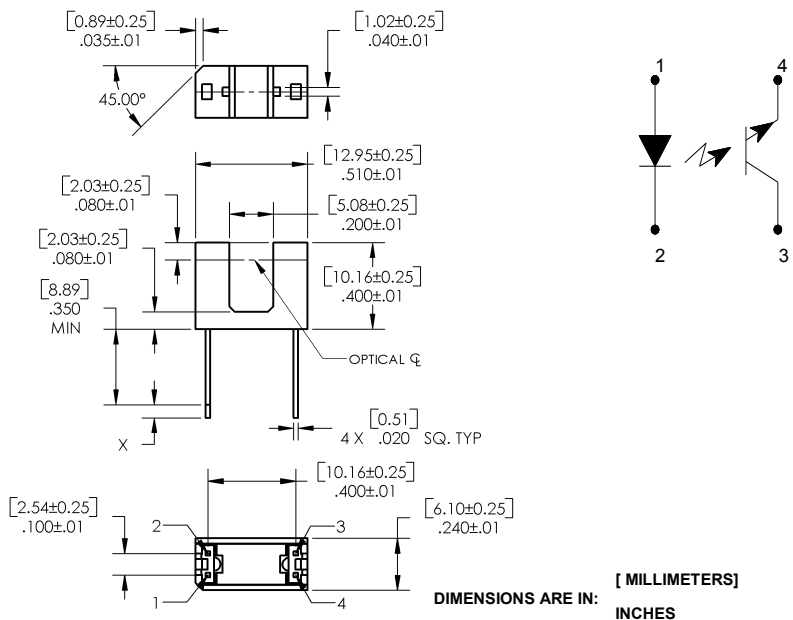
The output Phototransistor ON state conducts current ($I_{C(ON)}$) when no object is in the slot. The output switches to the OFF state when a device interrupts the light beam from the Emitter (LED) to the Phototransistor. The Phototransistor can acknowledge light between 400 nm and 1100 nm with optimum response in the 880 nm range.

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

Applications:

- Non-contact interruptive object sensing
- Assembly line automation
- Machine automation
- Equipment security
- Machine safety

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



| Ordering Information | | | | | |
|----------------------|---------------------|------------|--------------------|-------------------------|-----------------------|
| Part Number | LED Peak Wavelength | Sensor | Slot Width / Depth | Aperture Emitter/Sensor | Lead Length / Spacing |
| OPB200 | 890 nm | Transistor | 0.200" / 0.320" | None | 0.425" / 0.400 |



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.

OPTEK Technology, Inc.
1645 Wallace Drive, Carrollton, TX 75006 | Ph: +1 972 323 2200
www.optekinc.com | www.ttelectronics.com

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| Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted) | |
|--|----------------|
| Storage & Operating Temperature Range | -40°C to +85°C |
| Lead Soldering Temperature [1/16 inch (1.6mm) from the case for 5 sec. with soldering iron] ⁽¹⁾ | 260°C |
| Input Diode | |
| Forward DC Current | 50 mA |
| Peak Forward Current (1 μs pulse width, 300 pps) | 3 A |
| Reverse DC Voltage | 2 V |
| Power Dissipation ⁽²⁾ | 100 mW |
| Output Phototransistor | |
| Collector-Emitter Voltage | 30 V |
| Emitter-Collector Voltage | 5 V |
| Collector DC Current | 30 mA |
| Power Dissipation ⁽²⁾ | 100 mW |

| Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--------------------------------------|-----|-----|-----|---------------|--|
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
| Input Diode (see OP140 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 OP550 for additional information) | | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | 30 | - | - | V | $I_C = 1\text{ mA}$ |
| $V_{(BR)ECO}$ | Emitter-Collector Breakdown Voltage | 5 | - | - | V | $I_E = 100\ \mu\text{A}$ |
| I_{CEO} | Collector Dark Current | - | - | 100 | nA | $V_{CE} = 10\text{ V}, I_F = 0, E_E = 0$ |
| Combined | | | | | | |
| $V_{CE(SAT)}$ | Collector-Emitter Saturation Voltage | - | - | 0.4 | V | $I_C = 100\ \mu\text{A}, I_F = 20\text{ mA}$ |
| $I_{C(ON)}$ | On-State Collector Current | 1 | 4 | 6 | mA | $V_{CE} = 0.4\text{ V}, I_F = 20\text{ mA}$ |

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 1.67 mW/°C above 25 °C.
- (3) All parameters tested using pulse techniques.
- (4) Lead spacing of 0.400" (10.16 mm). Leads are a minimum of 0.020" sq. (0.508 mm) and 0.425" (10.795 mm) long.
- (5) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (6) Polarity is denoted by a notch next to pin 1 (LED Anode) of the package.

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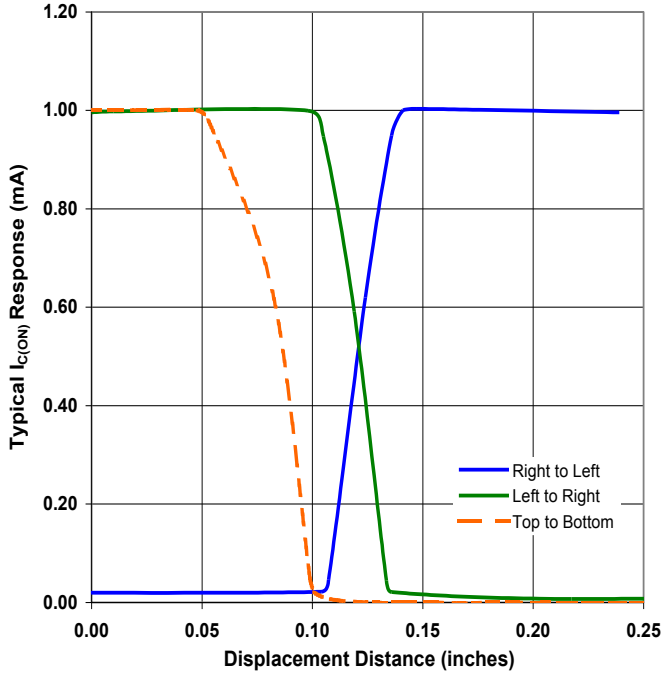
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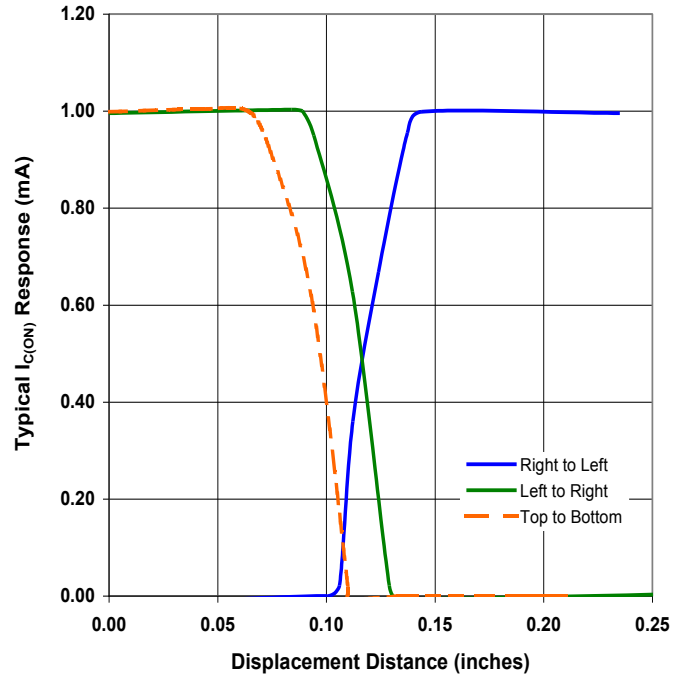
OPB200



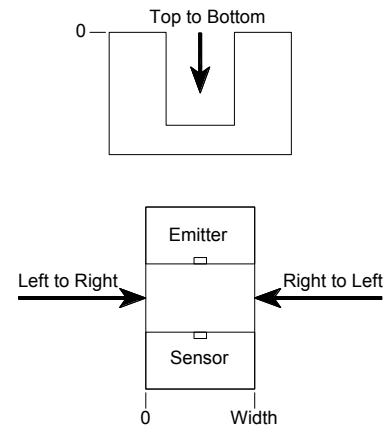
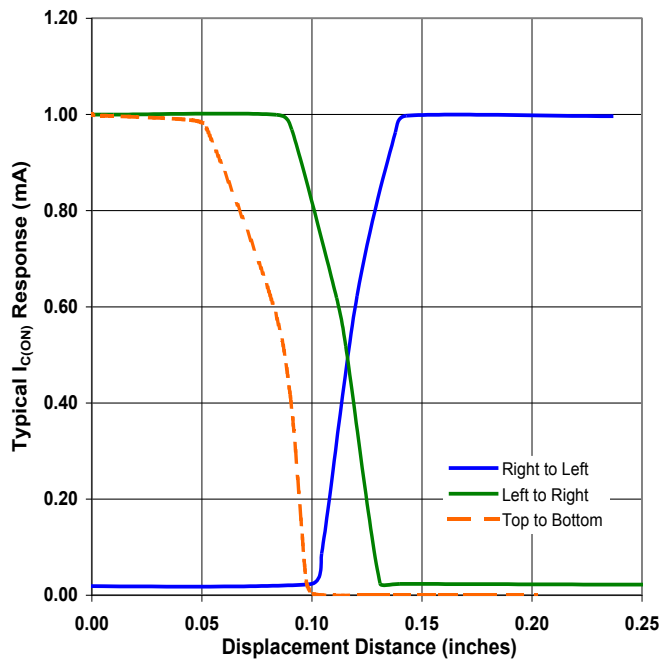
OPB200 - Flag Next to Emitter



OPB200 - Flag Next to Sensor



OPB200 - Flag in Middle of Slot



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- 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;
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- 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

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