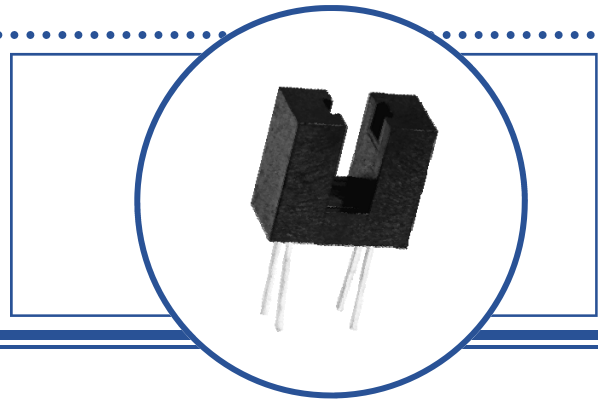


# Slotted Optical Switch OPB804



## Features:

- Non-contact switch
- PCB mount
- Wide aperture
- Opaque body to minimize sensitivity to ambient light



## Description:

OPB804 is a non-contact optical switch with a NPN silicon phototransistor and infrared Light Emitting Diode (LED) which are mounted on opposite sides of a 0.155" ( 3.94 mm) wide slot.

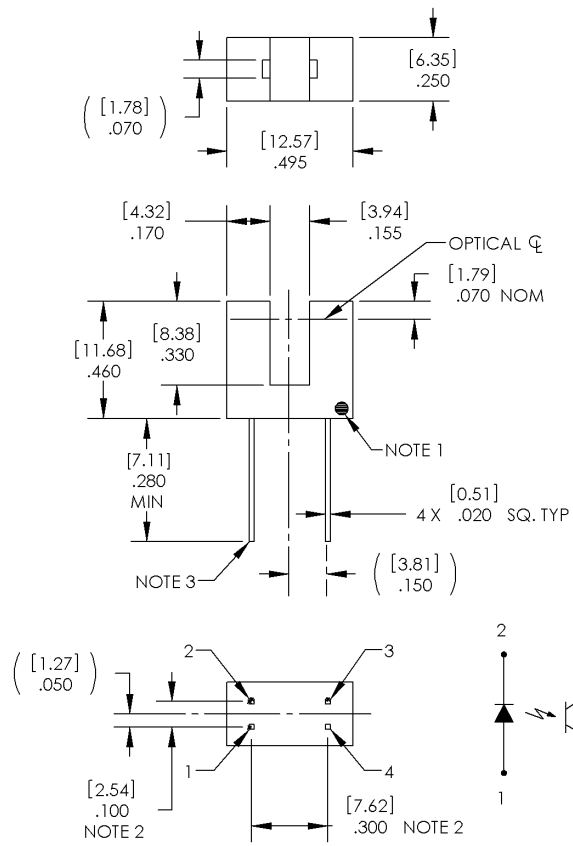
The device body is a single molded piece opaque plastic that reduces ambient light interference. A wide open aperture makes it versatile for general applications. LED emissions are near-infrared (850 – 940nm).

Custom electrical, wire and cabling services are available.

Contact your local representative or OPTEK for more information. Compliant to EU RoHS Directive 2002/95/EC.

## Applications:

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



DIMENSIONS ARE IN INCHES AND [MILLIMETERS]  
TOLERANCES ARE ± .010" [0.25] UNLESS OTHERWISE STATED



RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

### Absolute Maximum Ratings

Storage Temperature Range	-40°C to +100° C
Operating Temperature Range	-40°C to +85° C
Lead Soldering Temperature	260° C <sup>(5)</sup>
<b>Input Diode</b>	
Input Diode Power Dissipation	75 mW <sup>(7)</sup>
Input Diode Forward D.C. Current, T <sub>A</sub> = 25°C	50 mA <sup>(7)</sup>
Input Diode Peak Forward Pulse Current, T <sub>A</sub> = 25°C (1µs pulse width, 300pps)	1 A
Input Diode Reverse D.C. Voltage, T <sub>A</sub> = 25°C	2 V
<b>Phototransistor</b>	
Power Dissipation	100 mW <sup>(7)</sup>
Collector - Emitter Voltage	30V
Emitter - Collector Voltage	5.0V

### Electrical Characteristics ( T<sub>A</sub> = 25°C )

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
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#### Input Diode (see OP140 or OP240 for additional information)

V <sub>F</sub>	Forward Voltage	-	1.25	1.70	V	I <sub>F</sub> = 20 mA
I <sub>R</sub>	Reverse Current	-	-	100	µA	V <sub>R</sub> = 2 V

#### Output Phototransistor (see OP550 for additional information)

V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	30	-	-	V	I <sub>C</sub> = 1 mA, E <sub>E</sub> = 0 mw/cm <sup>2</sup>
V <sub>(BR)ECO</sub>	Emitter-Collector Breakdown Voltage	5.0	-	-	V	I <sub>E</sub> = 100 µA, E <sub>E</sub> = 0 mw/cm <sup>2</sup>
I <sub>CEO</sub>	Collector Dark Current	-	-	100	nA	V <sub>CE</sub> = 10 V, I <sub>F</sub> = 0, E <sub>E</sub> = 0 mw/cm <sup>2</sup>

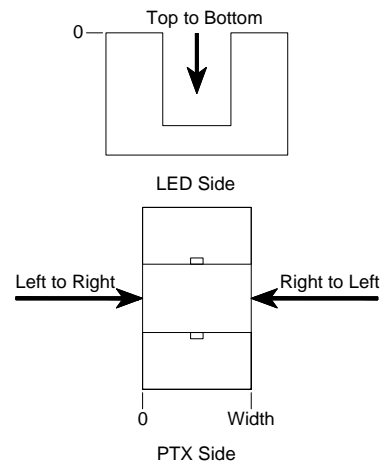
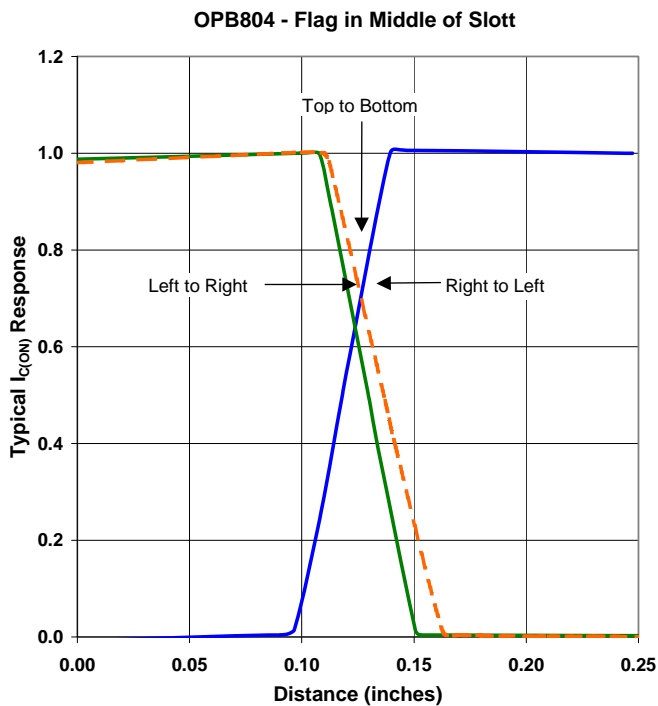
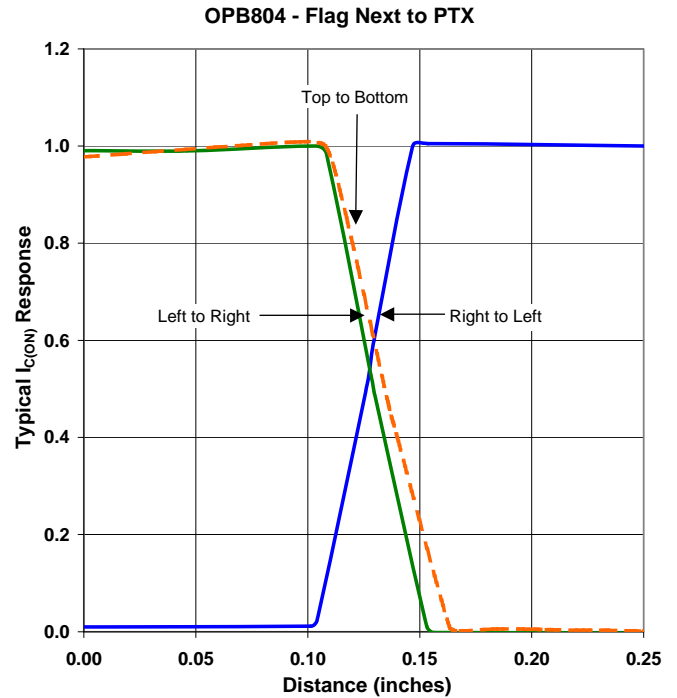
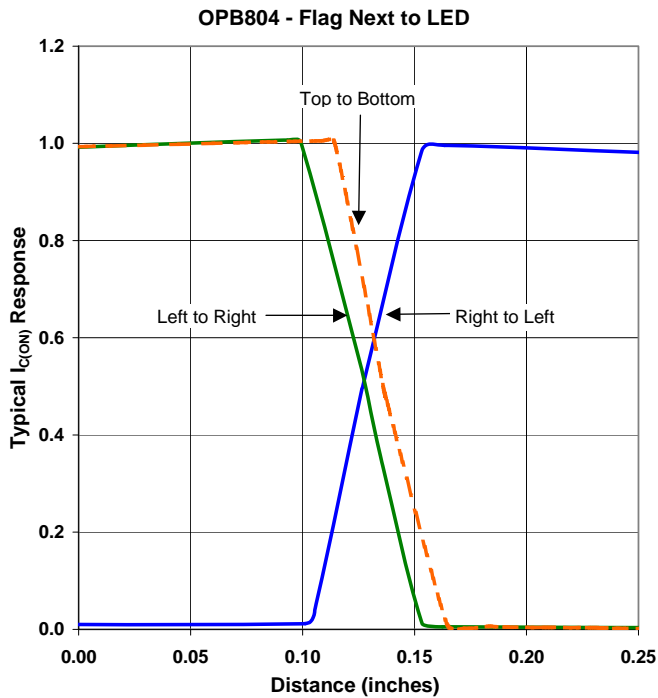
#### Coupled

V <sub>CE(SAT)</sub>	Collector-Emitter Saturation Voltage	-	-	0.40	V	I <sub>C</sub> = 250 µA, I <sub>F</sub> = 20 mA
I <sub>C(ON)</sub>	On-State Collector Current	0.5	5	-	mA	V <sub>CE</sub> = 10 V, I <sub>F</sub> = 20 mA

Notes:

- (1) Dot indicates # 3 collector lead side.
- (2) Feature controlled at body.
- (3) Cathode lead may be shorter.
- (4) RMA flux recommended. Highly activated water soluble fluxes may attack plastic. Recommend trial to verify application.
- (5) Maximum lead soldering temperature .060" [1.6mm] from case for 5 seconds with soldering iron.
- (6) Plastic is soluble in chlorinated hydrocarbons and ketones. Methanol or isopropanol are recommended as cleaning agents.
- (7) Derate linearly 1.67 mW/°C above 25° C.
- (8) All parameters tested using pulse techniques.
- (9) Do not connect input diode directly to a voltage source without an external current limiting resistor.

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