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[OPB804](#)

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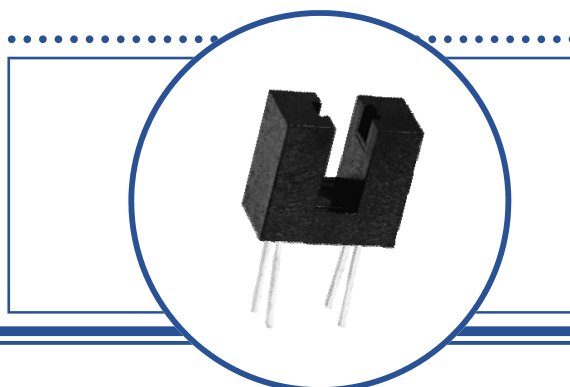
sales@integrated-circuit.com

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.

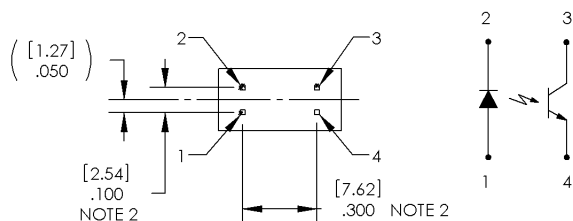
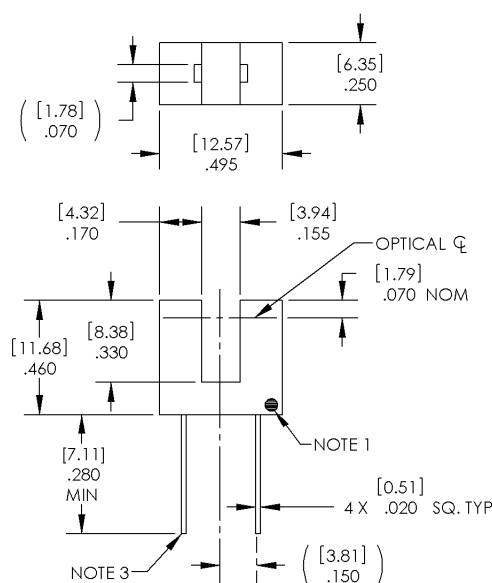
The device body is a single molded piece opaque plastic that reduces ambient light interference. A wide open aperture makes it versatile for general applications. LED emissions are near-infrared (850 – 940nm).

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



RoHS

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

DIMENSIONS ARE IN INCHES AND [MILLIMETERS]
TOLERANCES ARE $\pm .010$ [0.25] UNLESS
OTHERWISE STATED

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Absolute Maximum Ratings

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

Electrical Characteristics (T_A = 25°C)

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

V _F	Forward Voltage	-	1.25	1.70	V	I _F = 20 mA
I _R	Reverse Current	-	-	-	-	Not designed for reverse operation

Output Phototransistor (see OP550 for additional information)

V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	30	-	-	V	I _C = 1 mA, E _E = 0 mw/cm ²
V _{(BR)ECO}	Emitter-Collector Breakdown Voltage	5.0	-	-	V	I _E = 100 μA, E _E = 0 mw/cm ²
I _{CEO}	Collector Dark Current	-	-	100	nA	V _{CE} = 10 V, I _F = 0, E _E = 0 mw/cm ²

Coupled

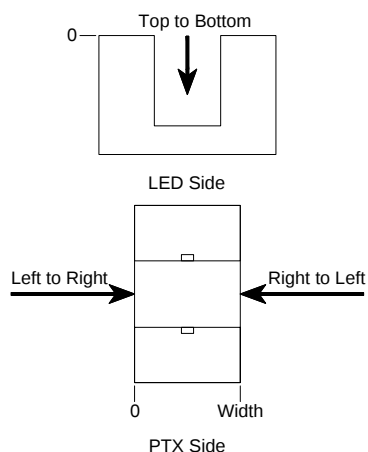
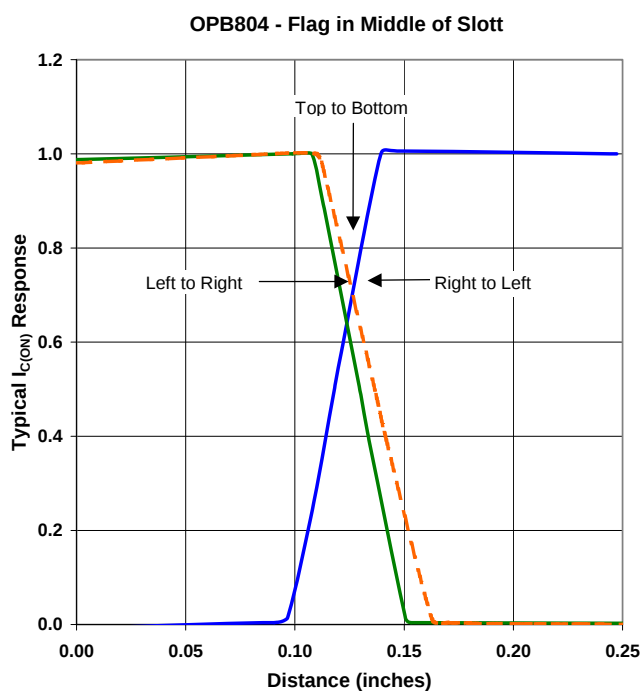
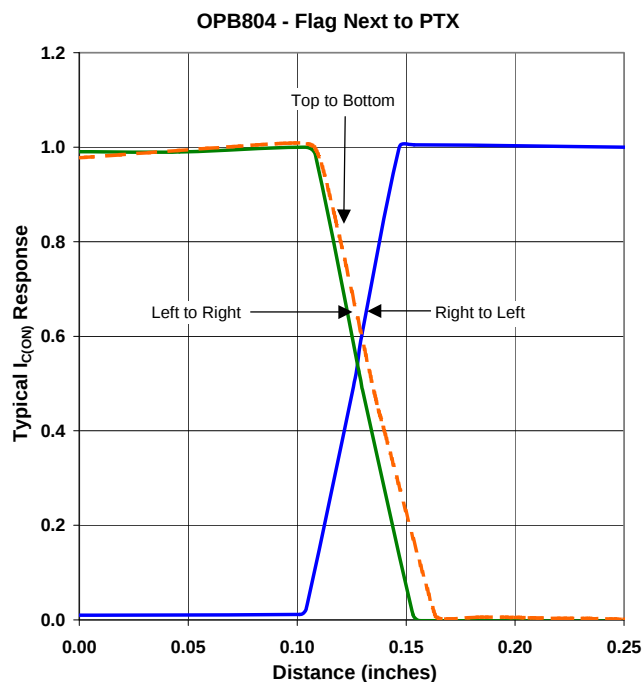
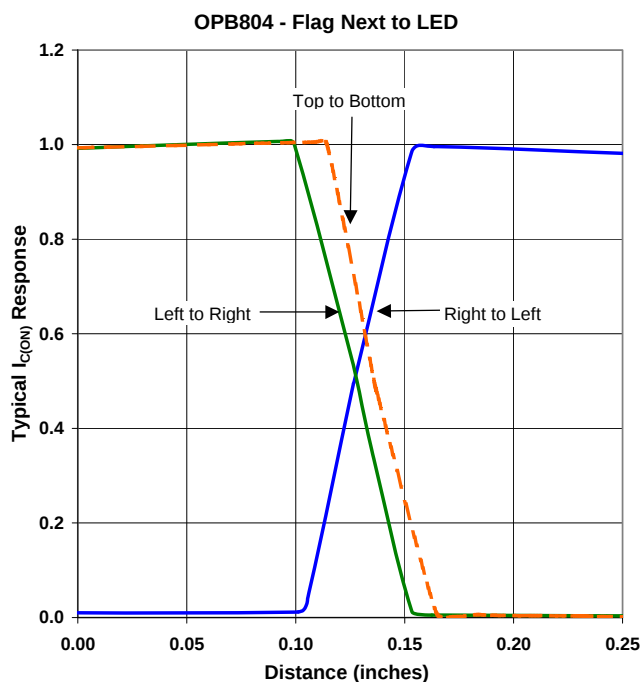
V _{CE(SAT)}	Collector-Emitter Saturation Voltage	-	-	0.40	V	I _C = 250 μA, I _F = 20 mA
I _{C(ON)}	On-State Collector Current	0.5	5	-	mA	V _{CE} = 10 V, I _F = 20 mA

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.
- (10) Do not apply reverse voltage to LED. LED will be a 0V in reverse voltage and draw current as if a short.

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