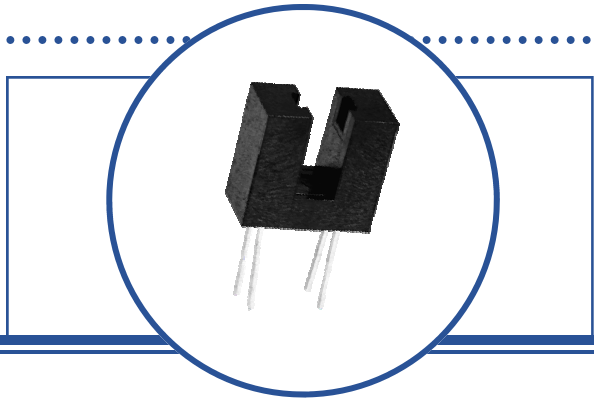
Slotted Optical Switch
OPB804

TT electronics
OPTEK Technology

Features:
- Non–contact switching
- Housing opaque material
- Printed circuit board mount
- 0.155” (3.9 mm) width gap, 0.330” (8.4 mm) depth slot



Description:
OPB804 contains an IRLED and phototransistor paired in an opaque plastic housing .

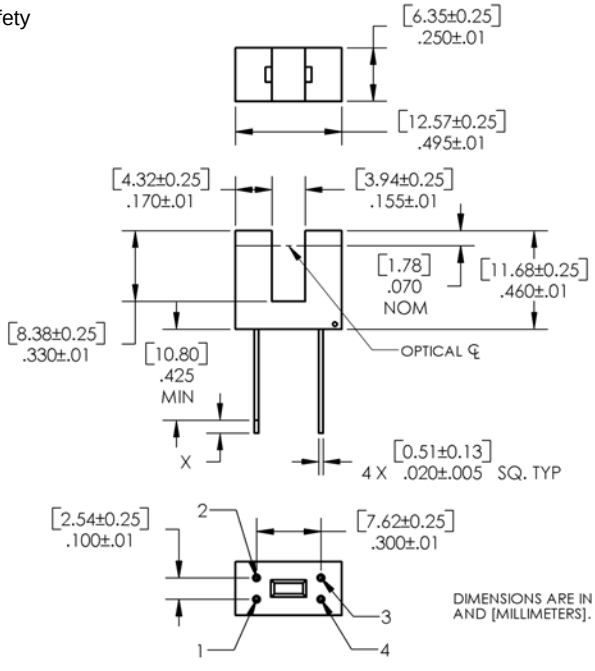
The housing is an opaque grade of injection molded plastic, which minimizes the assembly’s sensitivity to visible and near-infrared radiation. A wide open aperture [0.06” (1.5mm) equivalent] makes it versatile for general applications.

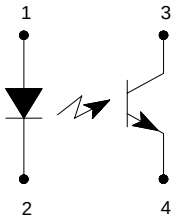
The output phototransistor turns off when an object opaque to IR (700 nm to 1100 nm) is inserted into the gap between the emitter and sensor, thereby interrupting the light beam.

Contact OPTEK for special electrical screening, value-added services and next-level-assembly services on this sensor.

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

Ordering Information					
Part Number	**LED Peak Wavelength**	**Sensor**	**Slot Width / Depth**	**Aperture Emitter/Sensor**	**Lead Length / Spacing**
OPB804	**935 nm**	**Transistor**	**0.150" / 0.330”**	**None**	**0.425" / 0.300"**





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

RoHS

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

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 sensors@optekinc.com www.optekinc.com

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Storage Temperature Range	-40°C to +100°C
Operating Temperature Range	-40°C to +85°C
Lead Soldering Temperature [1/16 inch (1.6mm) from the case for 10 sec. with soldering iron][(1)]	260°C for 5 Seconds

Input IRLED

Forward DC Current	50 mA
Peak Forward Current (1 µs pulse width, 300 pps)	1 A
Reverse DC Voltage	2 V
Power Dissipation	75 mW

Output Phototransistor

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Collector DC Current	30 mA
Power Dissipation	100 mW

Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode (see OP140 for additional information)						
V_F	Forward Voltage	-	1.25	1.7	V	I_F = 20 mA
I_R	Reverse Current	-	-	100	µA	V_R = 2 V
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	-	-	V	I_E = 100 µA, E_E = 0 mw/cm^2
I_{CEO}	Collector-Emitter Dark Current	-	-	100	nA	V_{CE} = 10 V,I_F = 0, E_E = 0 mw/cm^2
Combined						
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	-	-	0.4	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. With soldering iron 1/16 inch (1.6mm) from the case. Duration can be extended to 10 seconds max. when flow soldering. RMA flux is recommended.
2. All parameters measured using pulse technique.
3. Derate linearly 1.25 mW/°C above 25 ° C.

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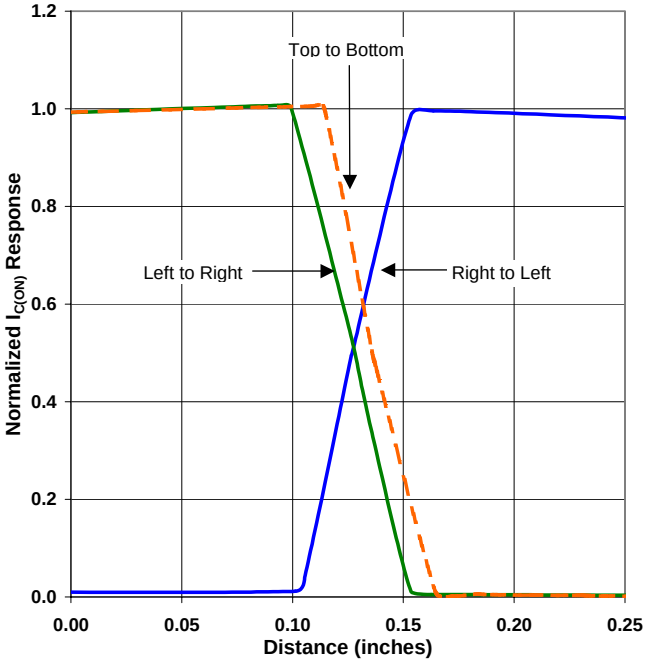
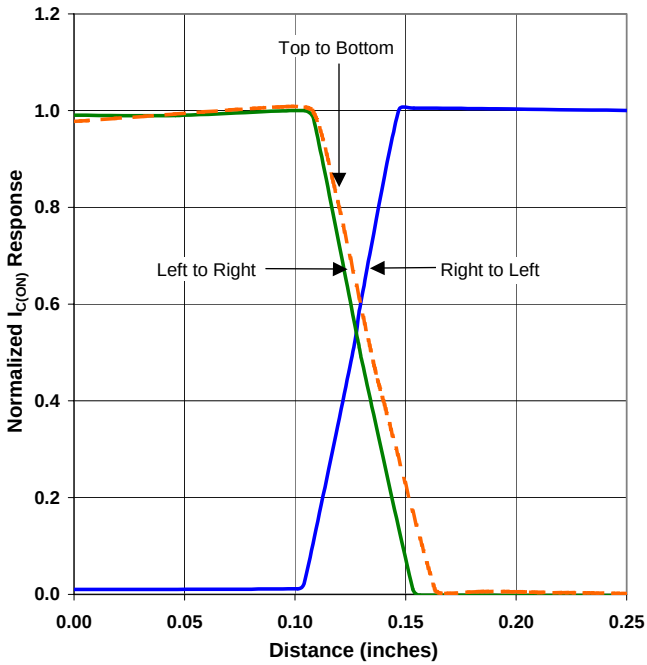
OPB804 - Flag Next to Emitter



OPB804 - Flag Next to Sensor



OPB804 - Flag in Middle of Slot