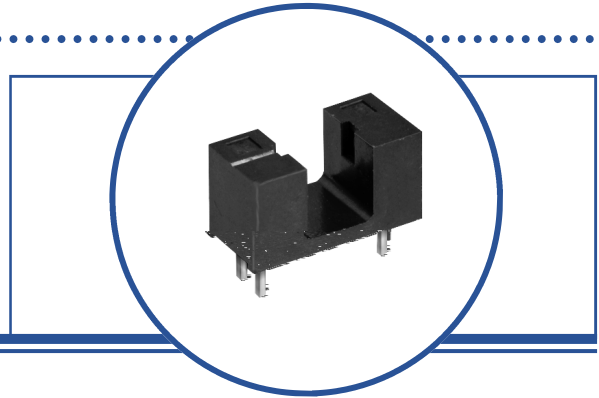


# Slotted Optical Switch OPB855



## Features:

- Low profile 0.27" (6.858 mm) overall height
- Printed PCBoard mounting
- 0.205" (5.21 mm) wide and 0.150 (3.81 mm) deep slot
- 0.380" (9.65 mm) lead spacing
- Opaque plastic housing



## Description:

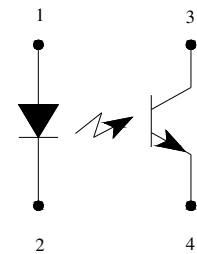
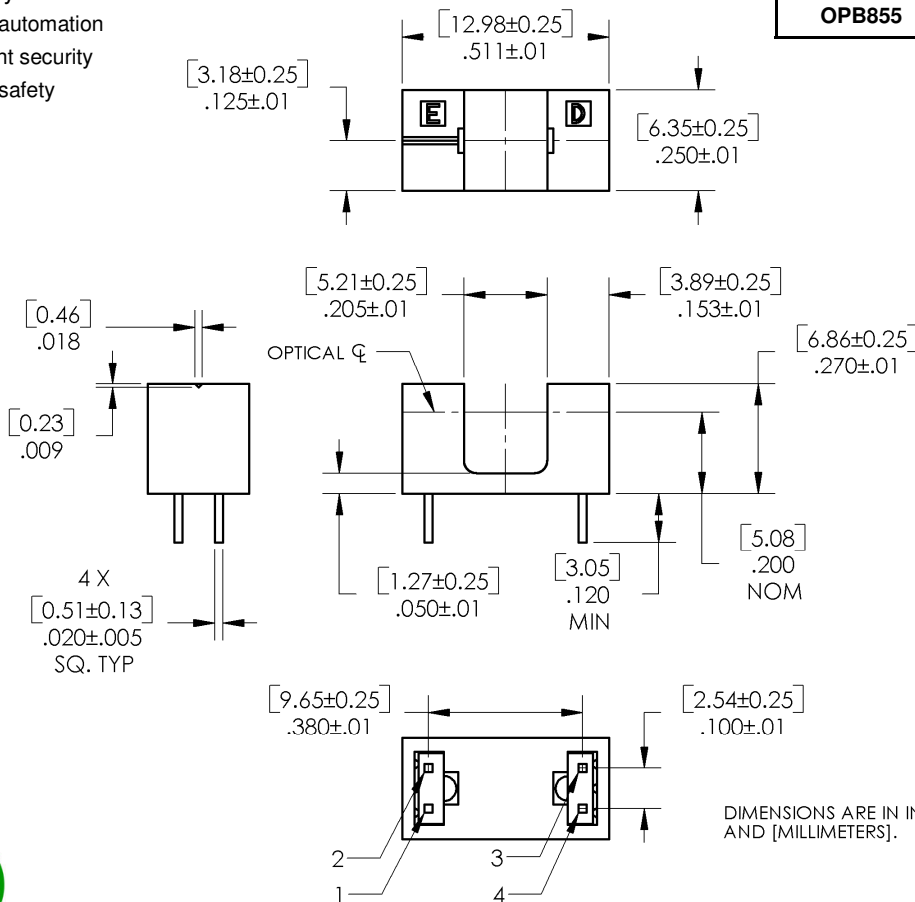
The **OPB855** slotted optical switch consists of an infrared emitting diode and a NPN silicon phototransistor, mounted on opposite sides of a 0.205" (5.21 mm) wide slot in an inexpensive plastic housing. Switching of the phototransistor occurs whenever an opaque object passes through the slot.

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

Ordering Information	
Part Number	Description
OPB855	Phototransistor Output



Pin #	Description
1	Anode
2	Cathode
3	Collector
4	Emitter

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].



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** ( $T_A=25^{\circ}\text{C}$  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] <sup>(1)</sup>	260°C

**Input Diode** (See OP140 for additional information)

Forward DC Current	50 mA
Peak Forward Current (1 $\mu\text{s}$ pulse width, 300 pps)	3 A
Reverse DC Voltage	2 V
Power Dissipation <sup>(2)</sup>	100 mW

**Output Phototransistor** (See OP550 for additional information)

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Collector DC Current	30 mA
Power Dissipation <sup>(2)</sup>	100 mW

**Electrical Characteristics** ( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
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**Input Diode**

$V_F$	Forward Voltage	-	-	1.5	V	$I_F = 40 \text{ mA}$
$I_R$	Reverse Current	-	-	100	$\mu\text{A}$	$V_R = 2 \text{ V}$

**Output Phototransistor**

$V_{(BR)CEO}$	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-Emitter Dark Current	-	-	100	nA	$V_{CE} = 10 \text{ V}, I_F = 0, E_E = 0$

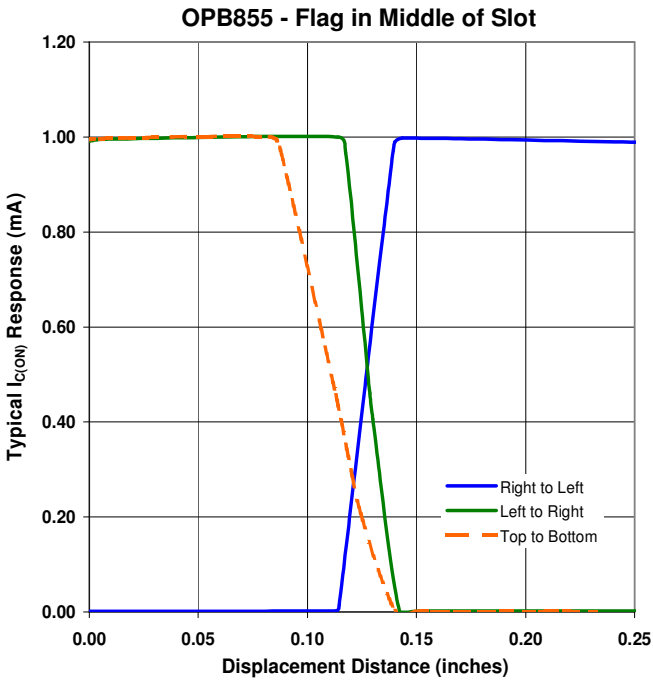
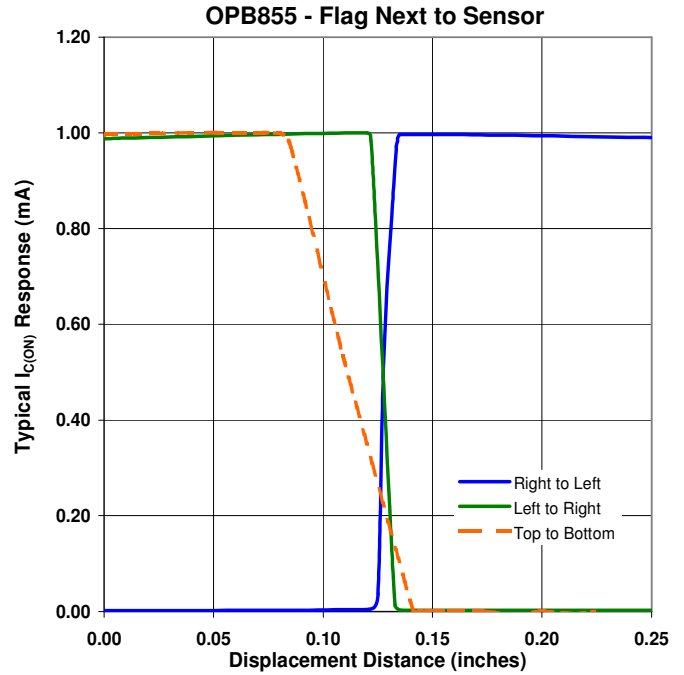
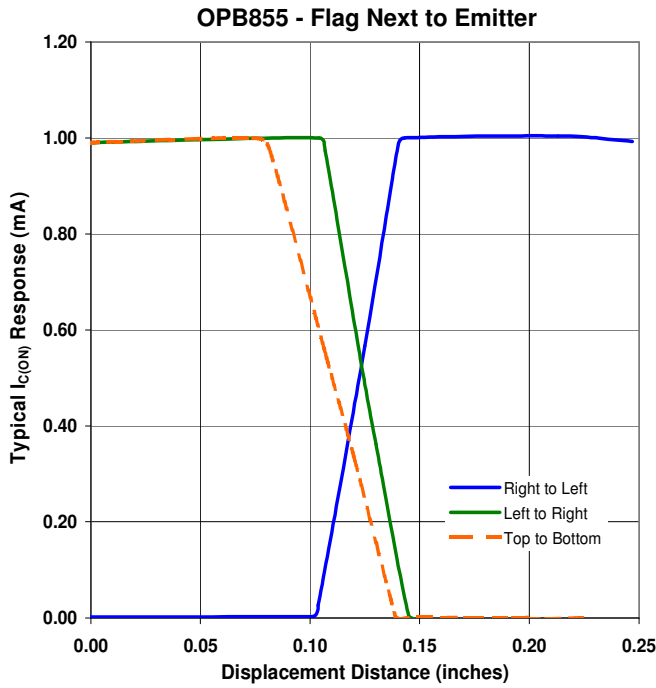
**Combined**

$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	-	-	0.4	V	$I_C = 400 \mu\text{A}, I_F = 20 \text{ mA}$
$I_{C(ON)}$	On-State Collector Current	500	-	-	$\mu\text{A}$	$V_{CE} = 5 \text{ V}, I_F = 20 \text{ mA}$

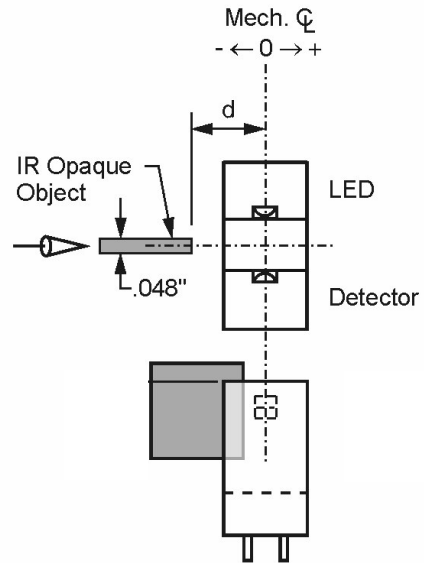
Notes:

- (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) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (4) All parameters were tested using pulse technique.

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**Test Schematic**



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