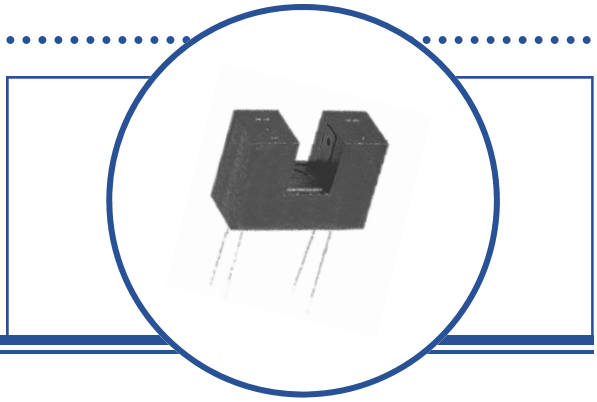
Slotted Optical Switch
OPB818

TT electronics
OPTEK Technology

Features:

- Choice of aperture
- Choice of opaque or IR transmissive shell material
- Non-contact switching
- Mounts directly to PCBoard or dual-in-line socket
- 0.400” (10.16 mm) lead spacing
- 0.200” (5.08 mm) slot width. 0.250” (6.35 mm) slot depth



Description:

The **OPB818** slotted switch consists of an infrared emitting diode and an NPN silicon phototransistor mounted in a low-cost black plastic housing on opposite sides of a 0.200” (5.080 mm) wide slot. Switching of the phototransistor occurs whenever an opaque object passes through the slot.

The OPB818Z is designed for direct soldering into PCBoards or for mounting in standard dual-in-line sockets and has an 0.25” (6.35 mm) deep and 0.20” (5.08 mm) wide slot. The apertures are 0.06” (1.52 mm) in diameter on both the sensor side (“S”) as well as on the emitter side (“E”).

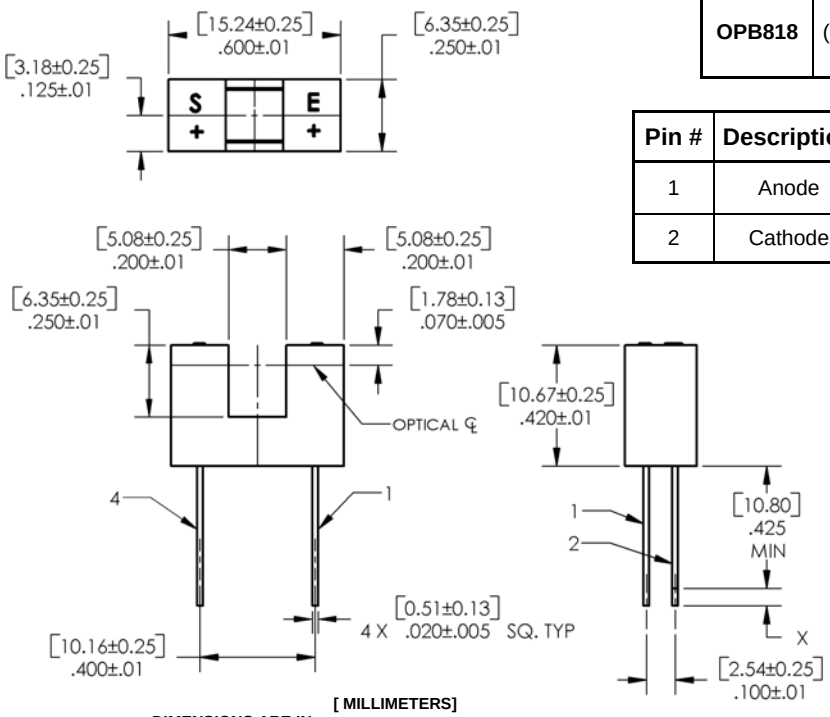
Custom electrical, wire and cabling and connectors are available. Contact your local representative or OPTEK for more information.

Applications:

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

Ordering Information	
Part Number	**Description**
OPB818	Slotted Optical Switch (mounts directly to PCBoards or to dual-in-line socket)

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



DIMENSIONS ARE IN: [MILLIMETERS] INCHES

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°C unless otherwise noted)

Storage & Operating Temperature Range	-40°C to +85° C
Lead Soldering Temperature [1/16 inch (1.6 mm) 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°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode (see OP240 for additional information)						
V_F	Forward Voltage	-	-	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
$V_{(BR)(ECO)}$	Emitter-Collector Breakdown Voltage	5	-	-	V	I_E = 100 µA
I_{CEO}	Collector-Emitter Leakage Current	-	-	100	nA	V_{CE} = 10 V, I_F = 0, E_E = 0
Coupled						
$I_{C(ON)}$	On-State Collector Current	100	-	-	µA	V_{CE} = 10 V, I_F = 20 mA
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	-	-	0.4	V	I_C = 50 µA, I_F = 20 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 were tested using pulse techniques.
(4) Leads are 0.20" square (5.080 mm) and 0.425" long (10.80 mm), minimum.
(5) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones. Spray and wipe; do not submerge.
(6) Polarity is denoted by color of housing top: LED (gray or clear), sensor (black).

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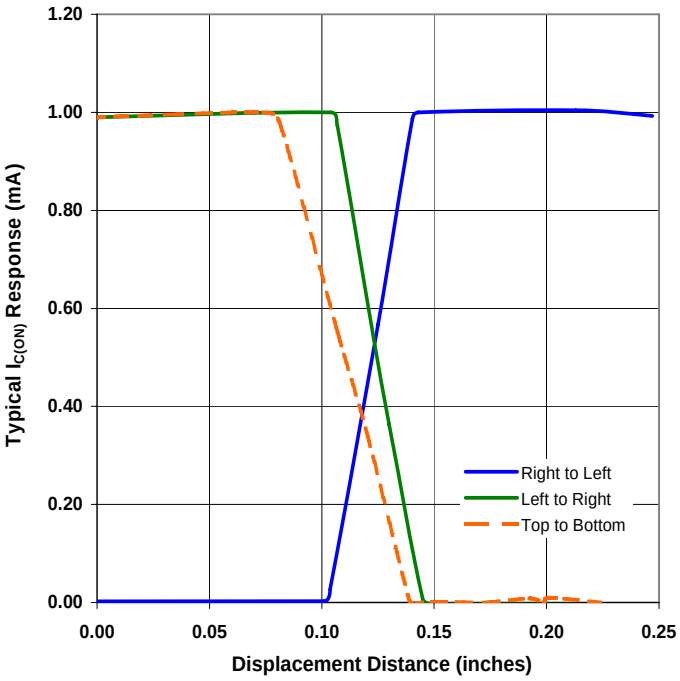
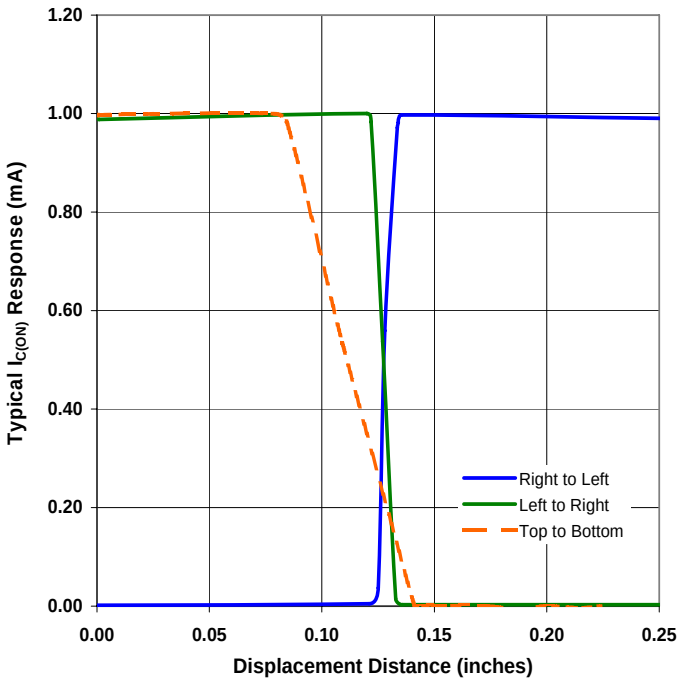
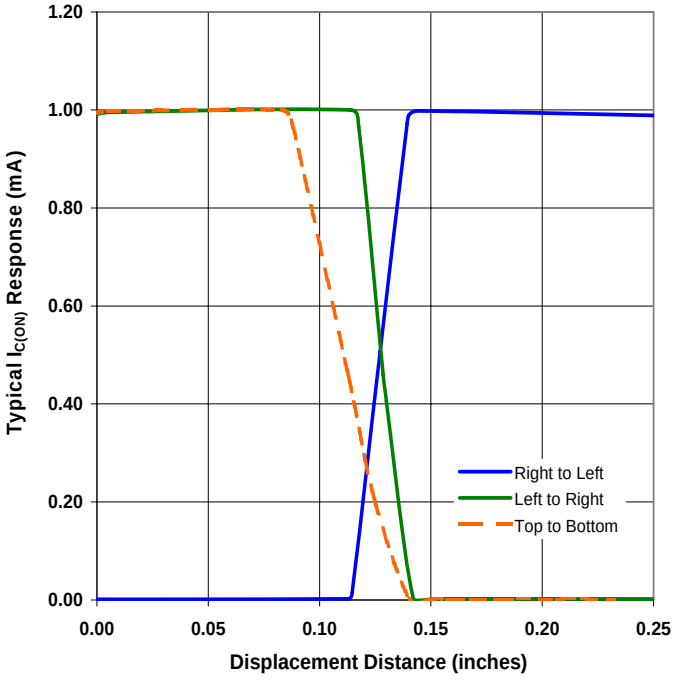
OPB818 - Flag Next to Emitter

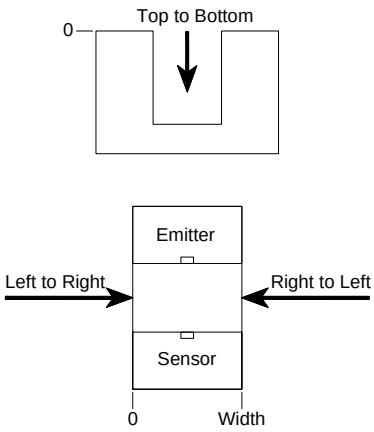


OPB818 - Flag Next to Sensor



OPB818 - Flag in Middle of Slot





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