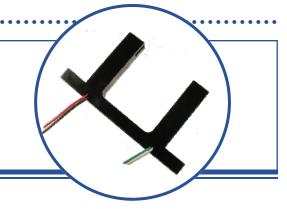
### **Slotted Optical Switch OPB819Z**



#### Features:

- Non-contact switching
- 24" (609 mm) long wire leads
- 1.25" (31.75 mm) wide slot, 1.38" (35.05 mm) deep slot



### **Description:**

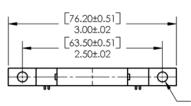
The **OPB819Z** slotted switch consists of an infrared emitting diode and an NPN silicon phototransistor mounted in an opaque housing with clear windows for dust protection. Switching of the phototransistor occurs whenever an opaque object passes through the slot.

The OPB819Z has an 1.38" (35.05 mm) deep and 1.25" (31.75 mm) wide slot allowing for a longer reach of the optical center line from the mounting plane. The switch housing is designed to use the lens of each component as the optical aperture resulting in an equivalent aperture diameter of 0.06" (1.52 mm).

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

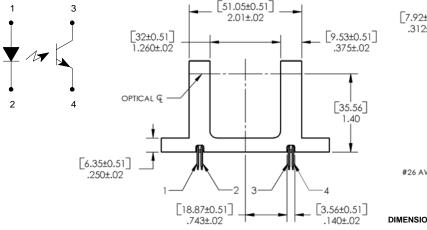
### Applications:

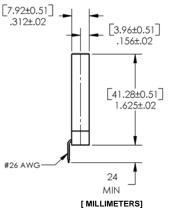
- · Non-contact object sensing
- Assembly line automation
- Machine automation
- Equipment security
- Machine safety



Color / Pin #	Description	Color / Pin #	Description
Red-1	Anode	White-3	Collector
Black-2	Cathode	Green-4	Emitter

[4.50±0.25] **Ø**.177±.01





INCHES

DIMENSIONS ARE IN:

Lead Length /



#### **Ordering Information** Slot Aperture **Part LED Peak** Width / Emitter/ Number Wavelength Sensor Depth Sensor Spacing 24" / 26 **OPB819Z** 1.26" / 1.38" 890 nm Transistor None AWG Wire

### **CONTAINS POLYSULFONE**

To avoid stress cracking, we suggest using ND Industries' Vibra-Tite for thread-locking. Vibra-Tite evaporates fast without causing structural failure in OPTEK's molded plastics.

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

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## Slotted Optical Switch OPB819Z



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	
Forward DC Current	50 mA

Forward DC Current	50 mA
Peak Forward Current (1 μs pulse width, 300 pps)	3 A
Reverse DC Voltage	2 V
Power Dissipation <sup>(2)</sup>	100 mW

### **Output Phototransistor**

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<sub>A</sub> = 25°C unless otherwise noted)

**Absolute Maximum Ratings** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diod	e					
V <sub>F</sub>	Forward Voltage	-	-	1.8	V	I <sub>F</sub> = 20 mA
I <sub>R</sub>	Reverse Current	-	-	100	μA	V <sub>R</sub> = 2.0 V
Output Ph	ototransistor					
$V_{(BR)(CEO)}$	Collector-Emitter Breakdown Voltage	30	-	-	V	$I_C = 100 \mu A, I_F = 0, E_E = 0$
$V_{(BR)(ECO)}$	Emitter-Collector Breakdown Voltage	5	-	-	V	$I_E = 100 \mu A, I_F = 0, E_E = 0$
I <sub>CEO</sub>	Collector-Emitter Leakage Current	-	-	100	nA	$V_{CE} = 10 \text{ V}, I_F = 0, E_E = 0$
Coupled		•				
I <sub>C(ON)</sub>	On-State Collector Current	0.5	-	12.0	mA	$V_{CE} = 5 \text{ V}, I_F = 40 \text{ mA}$
V <sub>CE(SAT)</sub>	Collector-Emitter Saturation Voltage	_	-	0.4	V	$I_{\rm C} = 250  \mu A$ . $I_{\rm E} = 40  \text{mA}$

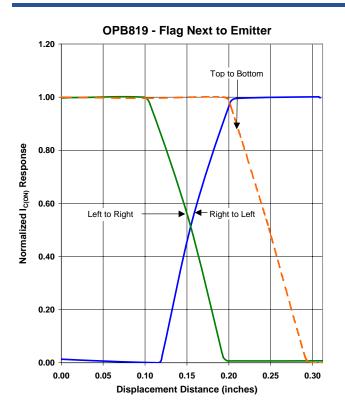
### Notes:

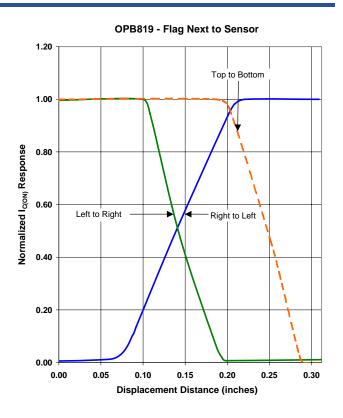
- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 1.67 mW/°C above 25° C.
- (3) All parameters tested using pulse techniques.
- (4) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones. Spray and wipe. Do not submerge.
- (5) Polarity is denoted by color the wires: LED (Anode—Red, Cathode—Black); Phototransistor (Collector—White, Emitter—Green).

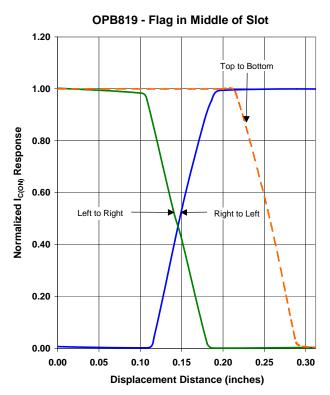
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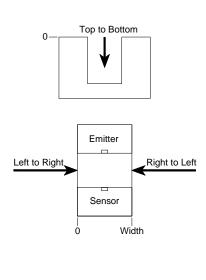
# Slotted Optical Switch OPB819Z











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