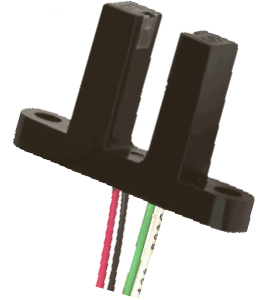


Slotted Optical Switch

OPB817Z



Features:

- 0.20" (5.08 mm) wide gap, 0.86" (21.84 mm) deep slot
- 24" (609 mm) #26 AWG UL rated wires
- Dust protection
- Two mounting tabs

Description:

The OPB817Z 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 OPB817Z has an 0.86" (21.844 mm) deep slot allowing for a longer reach of the optical center line from the mounting plane. The phototransistor internal apertures are 0.10" x 0.06" (0.25 mm x 1.52 mm) on the sensor side ("S") and 0.05" x 0.06" (1.27 mm x 1.52 mm) on the emitter side ("E").

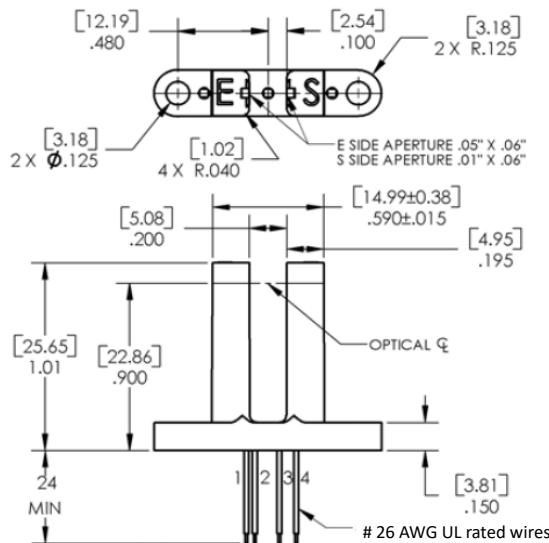
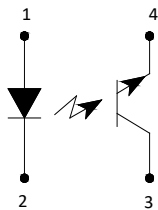
Custom electrical, wire and cabling and connectors are available. Contact your local representative or OPTEK for more information.

For application information, refer to Application Bulletins 248 and 213

Ordering Information					
Part Number	LED Peak Wavelength	Sensor	Slot Width / Depth	Aperture	Lead Length
OPB817Z	890 nm	Transistor	0.20" / 0.86"	.05" / .01"	24" / #26 AWG

Applications:

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



Wire Color	Description
Red	Anode
Black	Cathode
White	Collector
Green	Emitter



RoHS

General Note

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Electrical Specifications

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 (1.6 mm) from the case for 5 sec. with soldering iron] ^(1, 5)	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 ($T_A = 25^\circ \text{C}$ unless otherwise noted) ⁽³⁾

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode						
V_F	Forward Voltage	1.0	-	1.8	V	$I_F = 20 \text{ mA}$
I_R	Reverse Current	-	-	100	μA	$V_R = 2 \text{ V}$
Output Phototransistor						
$V_{(BR)(CEO)}$	Collector-Emitter Breakdown Voltage	30	-	-	V	$I_C = 1 \text{ mA}, I_F = 0, E_E = 0$
$V_{(BR)(ECO)}$	Emitter-Collector Breakdown Voltage	5	-	-	V	$I_E = 100 \mu\text{A}, I_F = 0, E_E = 0$
I_{CEO}	Collector-Emitter Leakage Current	-	-	100	nA	$V_{CE} = 10 \text{ V}, I_F = 0, E_E = 0$
Coupled						
$I_{C(ON)}$	On-State Collector Current	1.0	-	10.0	mA	$V_{CE} = 5 \text{ V}, I_F = 20 \text{ mA}$
$V_{CE(SAT)}$	Collector-Emitter	-	-	0.4	V	$I_C = 100 \mu\text{A}, I_F = 20 \text{ mA}$

Notes:

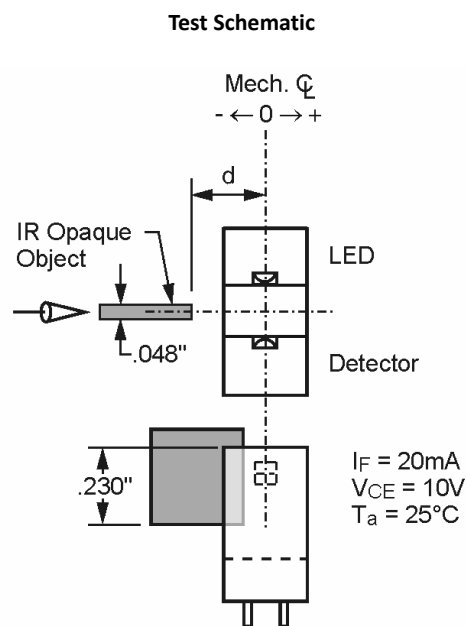
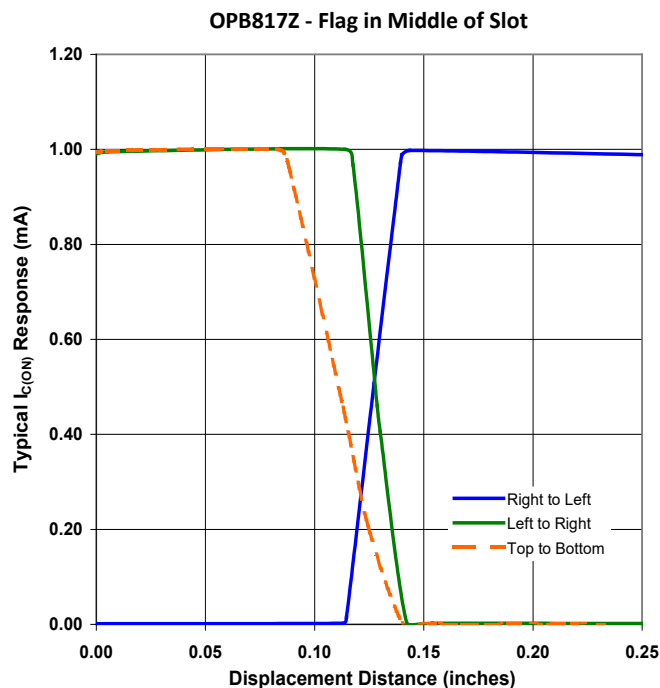
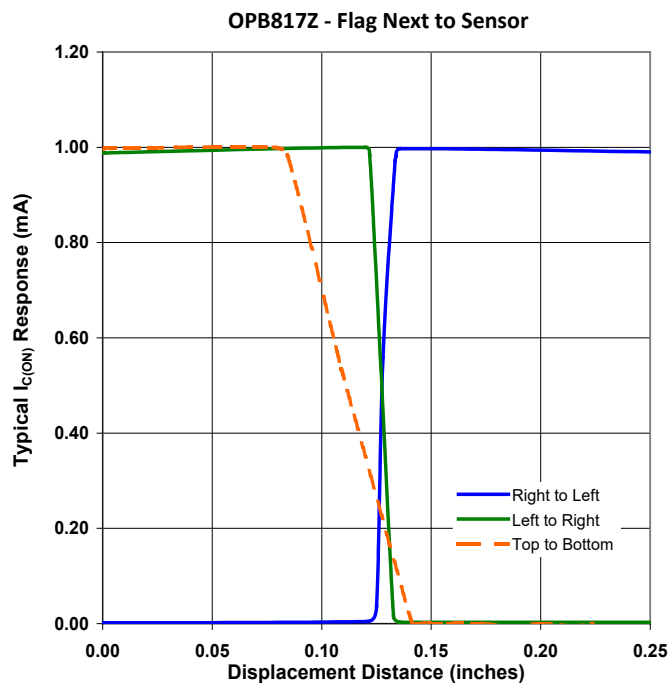
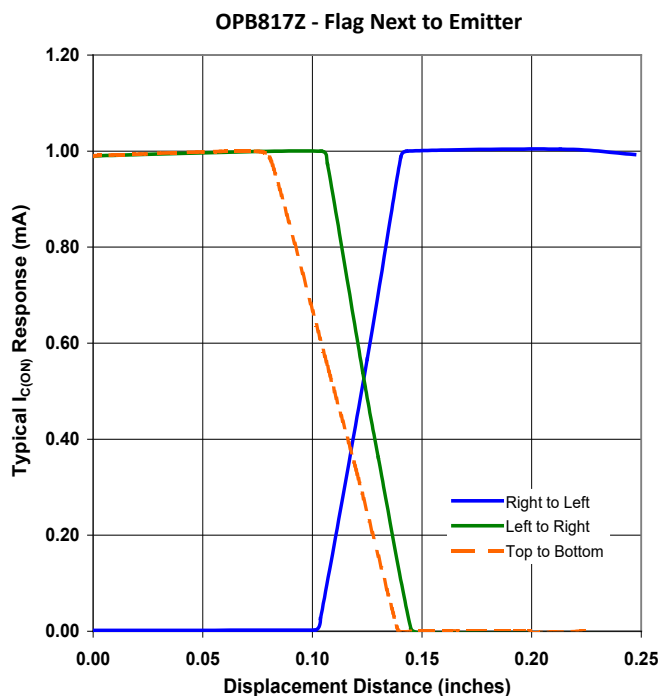
- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 1.33 mW/° C above 25° C
- (3) All parameters were tested using pulse techniques.
- (4) Lead spacing of 0.220" (5.59 mm) or 0.320" (8.13 mm) is available. Leads are 0.20" square (5.08 mm) and 0.425" long (10.80 mm), which is the 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).
- (7) Clear dust protection.

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Typical Performance

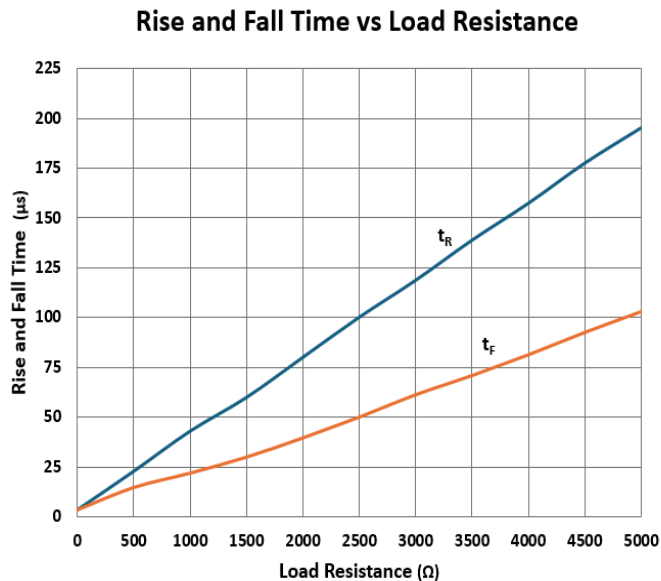
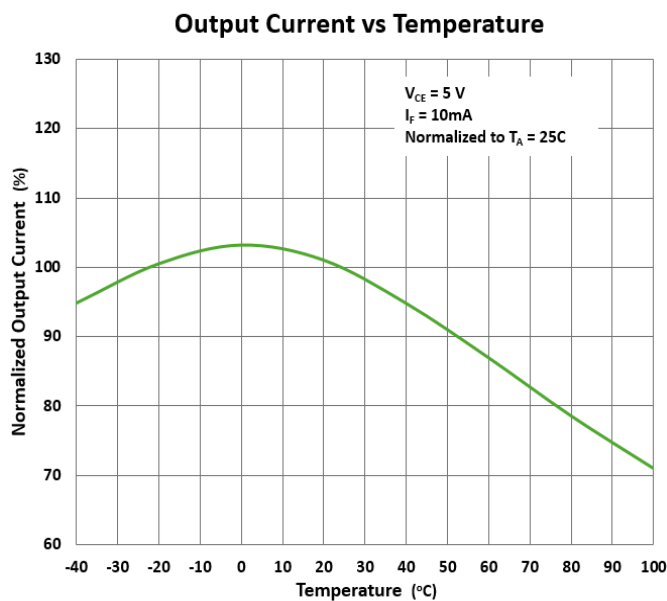
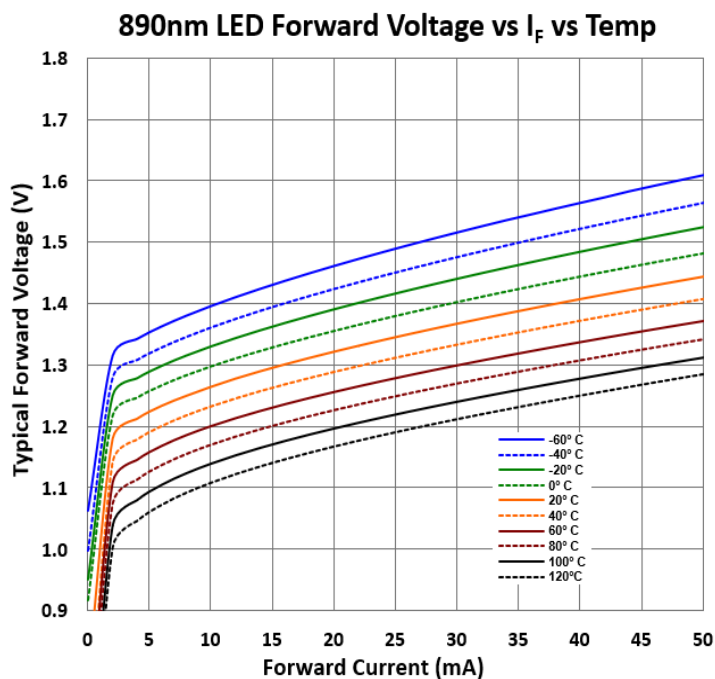


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Typical Performance



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