

# Slotted Optical Switch

## Type OPB817



### Features

- .20" (5.08 mm) wide gap
- 24" minimum, 26 AWG wire leads
- Dust protection
- .86" (21.8 mm) deep slot

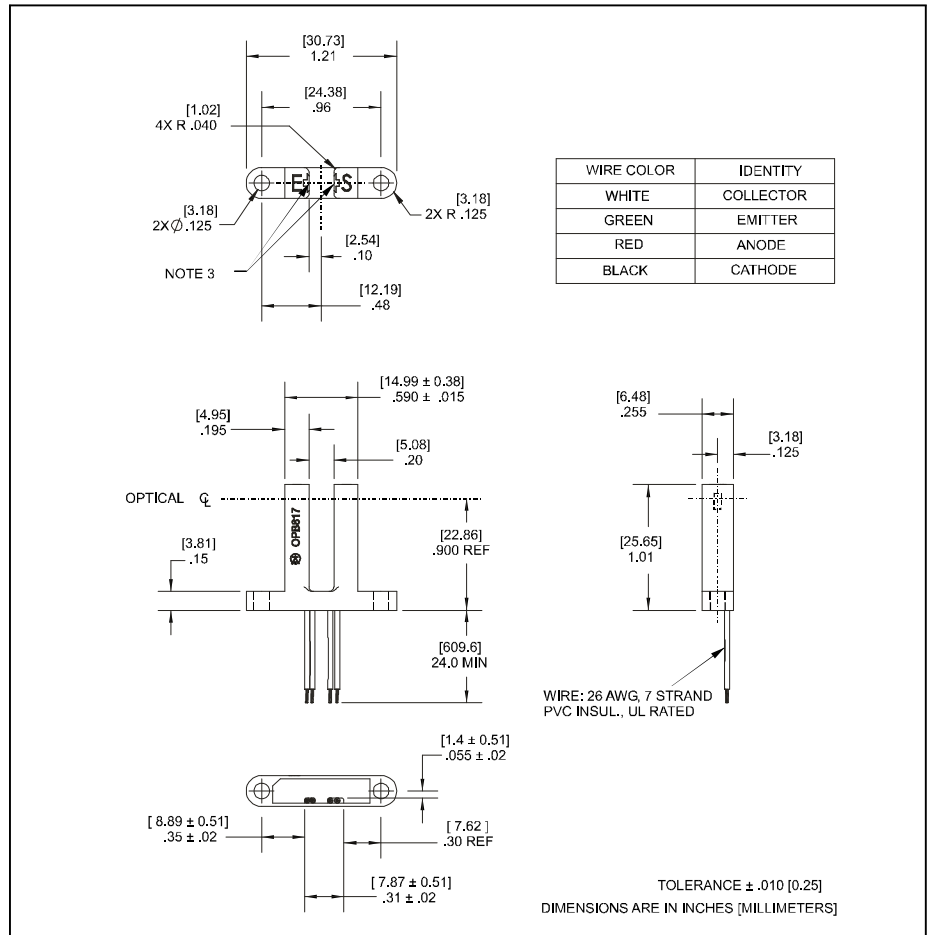
### Description

The OPB817 consists of an infrared emitting diode and an NPN silicon phototransistor mounted in an opaque housing with clear windows for dust protection. The extended deep slot allows for a longer reach of the optical center line from the mounting plane, .90" (22.86 mm).

Internal apertures are .010" x 0.06" for the phototransistor "S side" and .050" x .06" for the LED "E side".

Custom electrical, wire or cabling is available. Contact your local representative or Optek for more information.

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

Storage and Operating Temperature Range	-40° C to +80° C
<b>Input Diode</b>	
Forward DC Current	50 mA
Peak Forward Current (1 μs pulse width, 300 pps)	3.0 A
Reverse DC Voltage	2.0 V
Power Dissipation	100 mW <sup>(1)</sup>
<b>Output Phototransistor</b>	
Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5.0 V
Collector DC Current	30 mA
Power Dissipation	100 mW <sup>(1)</sup>

### NOTES:

- (1) Derate linearly 1.67 mW/° C above 25° C.
- (2) All parameters tested using pulse technique.
- (3) Clear dust protection.

**PRECAUTIONS:** Exposure of the plastic body to chlorinated hydrocarbons and ketones such as thread lock and instant adhesive products will degrade the plastic body. Cleaning agents methanol and isopropanol are recommended. Spray or wipe do not submerge.

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
<b>Input Diode</b>					
$V_F$	Forward Voltage		1.8	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current		100	$\mu\text{A}$	$V_R = 2\text{ V}$
<b>Phototransistor</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 1\text{ mA}, I_F = 0, E_e = 0$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	$I_E = 100\ \mu\text{A}, I_F = 0, E_e = 0$
$I_{CEO}$	Collector-Emitter Leakage Current		100	nA	$V_{CE} = 10\text{ V}, I_F = 0, E_e = 0$
<b>Coupled</b>					
$I_{C(ON)}$	On-State Collector Current	1.0	10	mA	$V_{CE} = 5.0, I_F = 20\text{ mA}$
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage		0.40	V	$I_C = 100\ \mu\text{A}, I_F = 20\text{ mA}$

SLOTTED  
OPTICAL  
SWITCHES