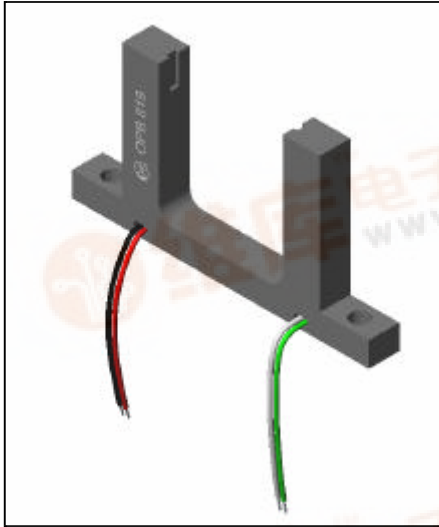




Product Bulletin OPB819
November 2000

Slotted Optical Switch Type OPB819



Features

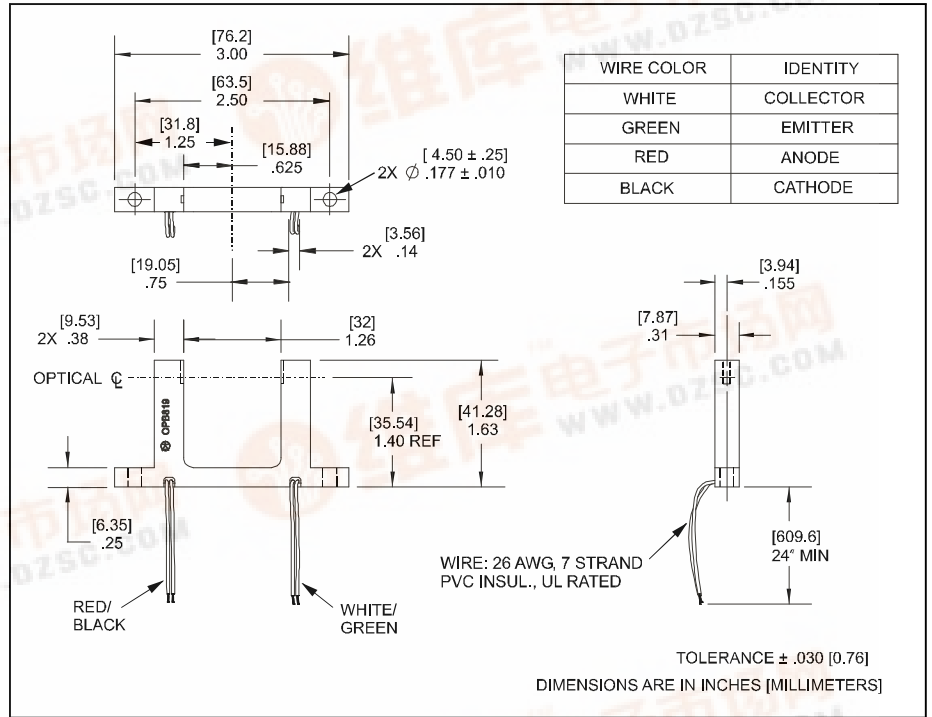
- Non-contact switching
- 24" wire leads
- 1.25" (32 mm) wide slot
- 1.38" (35 mm) deep slot

Description

The OPB819 consists of an infrared emitting diode and NPN silicon phototransistor mounted in a plastic housing on opposite sides of a 1.25" (31.75 mm) wide slot. Phototransistor switching takes place whenever an opaque object passes through the slot.

Custom electrical, wire or cabling is available.

Contact your local representative or Optek for more information.



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Storage and Operating Temperature Range -40°C to $+80^\circ\text{C}$

Input Diode

Continuous Forward Current 50 mA
Peak Forward Current (1 μs pulse width, 300 pps) 3.0 A
Reverse Voltage 2.0 V
Power Dissipation 100 mW⁽¹⁾

Output Photosensor

Collector-Emitter Voltage 30 V
Emitter-Collector Voltage 5.0 V
Power Dissipation 100 mW⁽¹⁾

NOTES:

- (1) Derate linearly 1.67 mW/ $^\circ\text{C}$ above 25°C .
- (2) All parameters tested using pulse technique.

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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or email us at sensors@optekinc.com



Type OPB819

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
Input Diode					
V_F	Forward Voltage		1.8	V	$I_F = 20 \text{ mA}$
I_R	Reverse Current		100	μA	$V_R = 2.0 \text{ V}$
Output Phototransistor					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 100 \mu\text{A}, I_F = 0, E_e = 0$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	$I_E = 100 \mu\text{A}, I_F = 0, E_e = 0$
I_{CEO}	Collector-Emitter Dark Current		100	nA	$V_{CE} = 10.0 \text{ V}, I_F = 0, E_e = 0$
Coupled					
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage		0.40	V	$I_C = 250 \mu\text{A}, I_F = 40 \text{ mA}$
$I_{C(ON)}$	On-State Collector Current	100		μA	$V_{CE} = 5.0 \text{ V}, I_F = 40 \text{ mA}$