



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



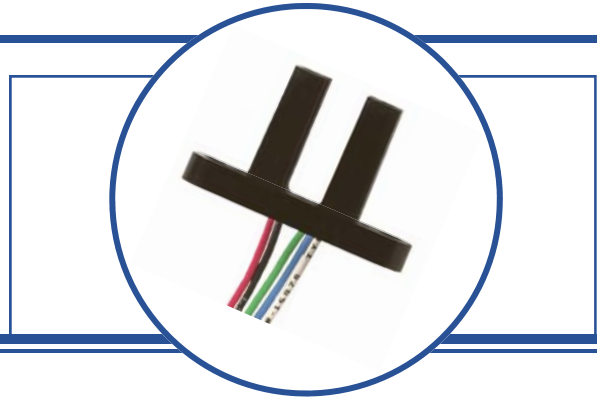
Photologic® Slotted Optical Switch

OPB916 Series



Features:

- Low power consumption
- Data rates to 250 kBaud
- Choice of two logic states and two electrical outputs
- 24" (610 mm) minimum 26 AWG UL listed wires
- Slot width 0.20" (5.08 mm)
- Slot Depth 0.635" (16.13 mm)



Description:

The **OPB916** series of Photologic® photo integrated circuit switches provide optimum flexibility. Each switch consists of an infrared Light Emitting Diode (LED) and a Photologic® photo integrated circuit, mounted in an opaque housing with clear windows for dust protection. The deep slot allows for a longer reach of the optical path from the 0.650" (16.5 mm) mounting plane. Internal apertures are 0.010" x .060" (.25 mm x 1.52 mm) for the Photologic's "S" side and 0.05" x 0.06" (1.27 mm x 1.52 mm) for the LED "E" side.

Devices in this series exhibit stable performance over supply voltages ranging from 4.5 V to 16.0 V, and may be specified as buffered or inverted with an internal 10 kΩ pull-up resistor or open collector output. Devices are TTL/ LSTTL compatible and can drive up to 10 TTL loads.

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

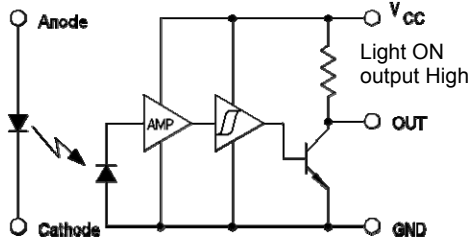
Applications:

- Mechanical switch replacement
- Speed indication (tachometer)
- Mechanical limit indication
- Edge sensing

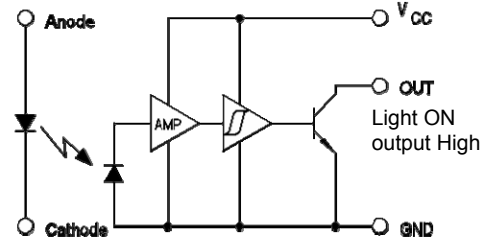
Ordering Information					
Part Number	LED Peak Wavelength	Sensor Photologic®	Slot Width / Depth	Aperture Emitter / Sensor	Lead Length / Wire
OPB916BZ	880 nm	10K Pull-Up	0.200" / 0.635"	0.05" / 0.01"	24" / 26 AWG Wire
OPB916IZ		Inv-10K Pull-Up			
OPB916BOCZ		Open-Collector			
OPB916IOCZ		Inv-Open-Collector			

Color	Description
Red	Anode
Black	Cathode
White	Vcc
Blue	Output
Green	Ground

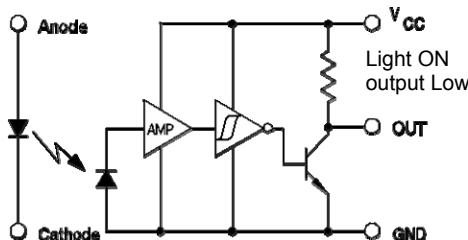
OPB916B 10K Pull-Up



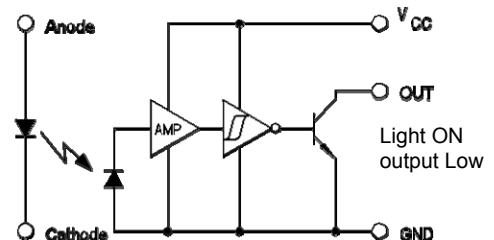
OPB916BOC Open-Collector



OPB916I Inverted 10K Pull-Up

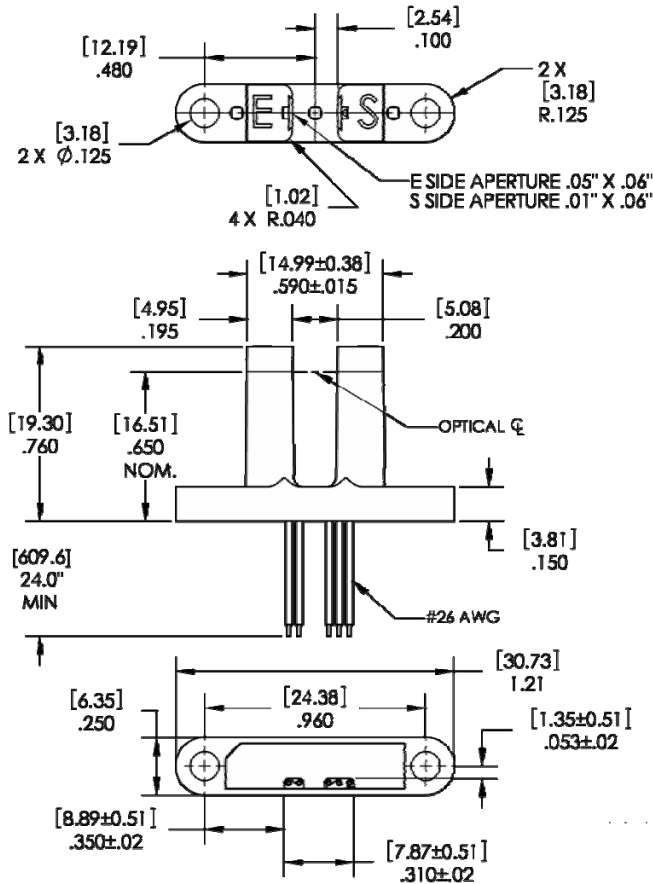


OPB916IOC Inverted Open-Collector



RoHS

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



Color-Pin #	Description
Red	Anode
Black	Cathode
Green	Ground
Blue	Output
White	V _{CC}

Tolerance ± 0.010 [0.254]

DIMENSIONS ARE IN: [MILLIMETERS]
 INCHES

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

Storage & Operating Temperature Range	-40°C to +80°C
---------------------------------------	----------------

Input Infrared LED

Diode Reverse DC Voltage	2 V
Input Diode Power Dissipation ⁽²⁾	75 mW
Forward DC Current	50 mA

Output Photologic®

Supply Voltage, V _{CC} (not to exceed 3 seconds)	18 V
Voltage at Output Lead (Open Collector Output)	30 V
Output Photologic® Power Dissipation ⁽³⁾	90 mW

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°.
- (3) Derate linearly 2.67 mW/°C above 25°.
- (4) Normal application would be with light source blocked, simulated by I_F = 0 mA.
- (5) All parameters tested using pulse technique.

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

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

SYM-BOL	PARAMETER	MIN	TYP	MAX	UNIT S	TEST CONDITIONS
---------	-----------	-----	-----	-----	--------	-----------------

Input Diode

V_F	Forward Voltage	-	1.3	1.8	V	$I_F = 20\text{ mA}$
I_R	Reverse Current	-	-	100	μA	$V_R = 2\text{ V}, T_A = 25^\circ\text{ C}$

Output Photologic® Sensor

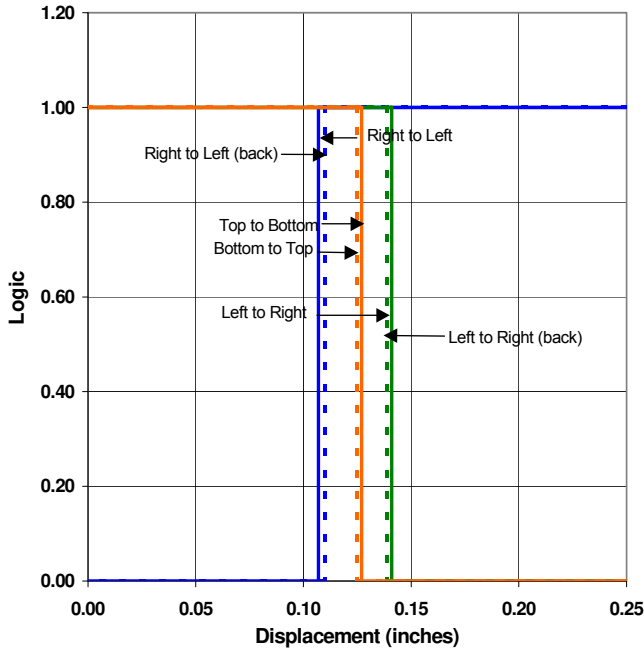
V_{CC}	Operating DC Supply Voltage	4.5	-	16	V	-
I_{CCL}	Low Level Supply Current: Buffered with 10k pull-up ⁽¹⁾ Buffered Open-Collector Output ⁽¹⁾	-	-	7	mA	$V_{CC} = 16\text{ V}, I_F = 0\text{ mA}, \text{ No Output Load}$
	Inverted with 10k pull-up: Inverted Open-Collector Output	-	-	7	mA	$V_{CC} = 16\text{ V}, I_F = 10\text{ mA}, \text{ No Output Load}$
I_{CCH}	High Level Supply Current: Buffered with 10k pull-up Buffered Open-Collector Output	-	-	6	mA	$V_{CC} = 16\text{ V}, I_F = 10\text{ mA}, \text{ No Output Load}$
	Inverted with 10k pull-up: Inverted Open-Collector Output ⁽¹⁾	-	-	6	mA	$V_{CC} = 16\text{ V}, I_F = 0\text{ mA}, \text{ No Output Load}$
V_{OL}	Low Level Output Voltage: Buffered with 10k pull-up Buffered Open-Collector Output	-	-	0.4	V	$V_{CC} = 4.5\text{ V}, I_{OL} = 16\text{ mA}, I_F = 0\text{ mA}$
	Inverted with 10k pull-up: Inverted Open-Collector Output	-	-	0.4	V	$V_{CC} = 4.5\text{ V}, I_{OL} = 16\text{ mA}, I_F = 10\text{ mA}$
V_{OH}	High Level Output Voltage: Buffered with 10k pull-up	$V_{CC}-2.0$	-	-	V	$V_{CC} = 4.5\text{ V to } 16\text{ V}, I_F = 10\text{ mA}, I_{OH} = 100\text{ }\mu\text{A}$
	Inverted with 10k pull-up:	$V_{CC}-2.0$	-	-	V	$V_{CC} = 4.5\text{ V to } 16\text{ V}, I_F = 0\text{ mA},$
I_{OH}	High Level Output Current: Buffered with 10k pull-up Buffered Open-Collector Output	-	1.0	10	μA	$V_{CC} = 4.5\text{ V}, I_F = 10\text{ mA}, V_{OH} = 30\text{ V}$
	Inverted with 10k pull-up: Inverted Open-Collector Output ⁽¹⁾	-	1.0	10	μA	$V_{CC} = 4.5\text{ V}, I_F = 0\text{ mA}, V_{OH} = 30\text{ V}$
$I_{F(+)}$	LED Positive-Going Threshold Current Buffered with 10k pull-up Inverted with 10k pull-up	-	5	10	mA	$V_{CC} = 5\text{ V}, \text{ No Output Load}$
	Buffered Open-Collector Output Inverted Open-Collector Output ⁽¹⁾	-	5	10	mA	$V_{CC} = 4.5\text{ V}, I_{OL} = 16\text{ mA}$
$I_{F(+)} / I_{F(-)}$	Hysteresis	-	1.5	-	-	$V_{CC} = 5\text{ V}$
$t_{r/f}$	Rise Time, Fall Time	-	50	-	ns	$V_{CC} = 5\text{ V}, I_F = 0\text{ or } 10\text{ mA}, R_L = 300\text{ }\Omega\text{ to } 5\text{ V}, C_L = 50\text{ pF}$
t_{PLH} / t_{PHL}	Propagation Delay	-	3	-	μs	

Notes:

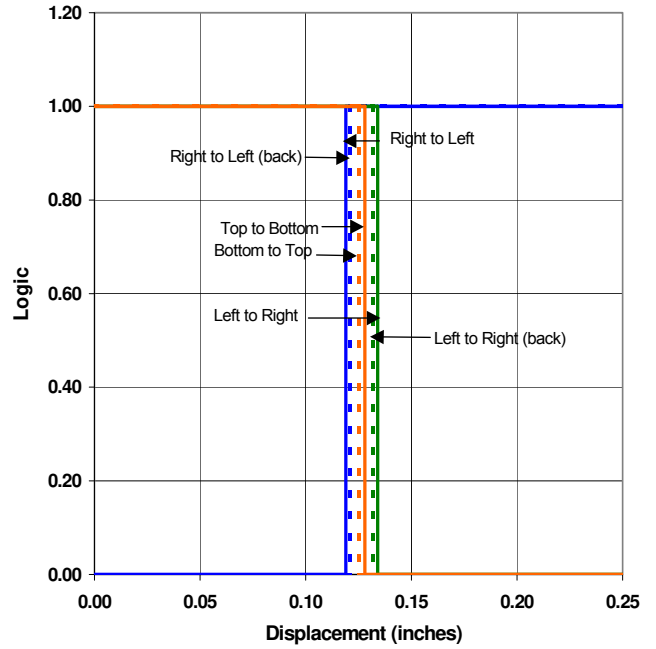
- (1) Normal application would be with light source blocked, simulated by $I_F = 0\text{ mA}$.
- (2) All parameters tested using pulse technique.

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

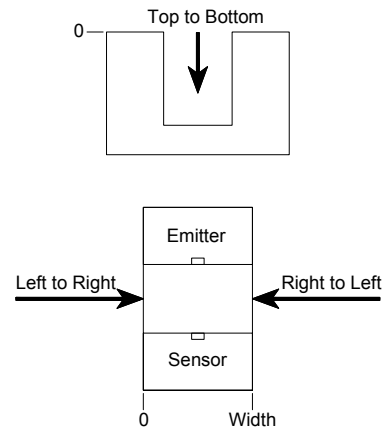
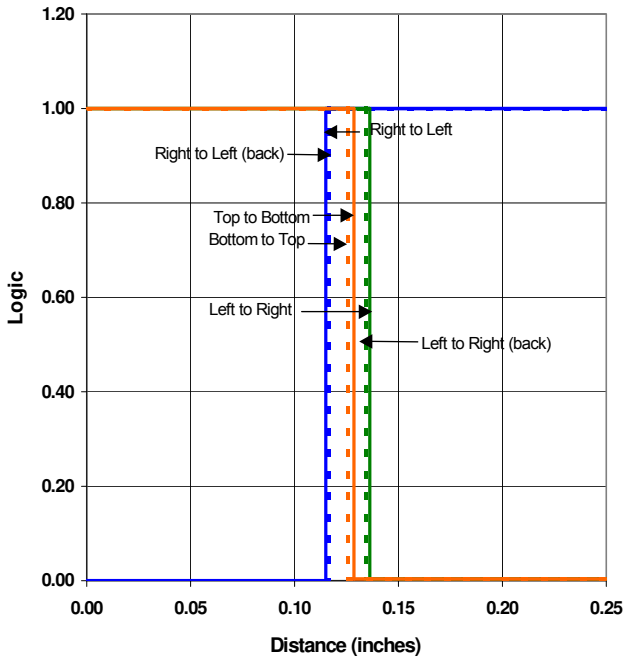
OPB916B - Flag Next to Emitter



OPB916B - Flag Next to Sensor



OPB916B - Flag in Middle of Slot



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