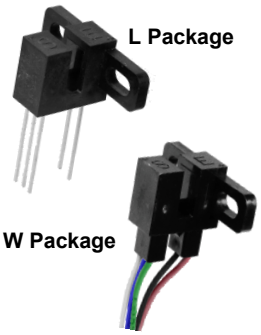
Photologic® Slotted Optical Switch

OPB930 and OPB940 (L and W Series)



Features:

- Choice of aperture size
- Choice of output configurations
- Choice of opaque or IR transmissive shell
- Choice of pins (L) or wires (W)
- 0.125” (3.18 mm) slot width
- 0.320” (8.128 mm) lead spacing for PCBoard (side mounting)
- Data rates to 250 kBaud

Description:

The **OPB930** and **OPB940** series of Photologic® photo integrated circuit switches provide optimum flexibility for the design engineer. Building from a standard housing with a 0.125” (3.18 mm) wide slot, a user can specify the type and polarity of TTL output, discrete shell material, aperture width and either 0.350” (8.9 mm) long pins **(L Series)** or 24” (610 mm) AWG, UL listed wire leads **(W Series)**.

All housings are made from an opaque grade of injection-molded plastic that minimizes the assembly’s sensitivity to both visible and near-infrared ambient radiation. Discrete shells (exposed on the parallel faces inside the device throat) are either IR transmissive plastic (for applications where aperture contamination may occur) or opaque plastic (for maximum protection against ambient light).

Electrical output can be specified as either TTL Totem Pole or TTL Open Collector, either of which can be supplied with buffer or inverter output polarity. All devices have the added stability of a built-in hysteresis amplifier.

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

Applications:

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

Part Number Guide — OPB930 and OPB940 Series

OPB 9 X X X X X Z — **For “W” series only**

Optek Assembly

Photologic® Photo Integrated Circuit Sensor Family

Discrete Shell Material:
3 — Side mount IR transmissive Plastic discrete shell
4 — Side mount opaque Plastic discrete shell

Electrical Specification Variations:
0 = Buffered Totem-Pole Output
1 = Buffered Open-Collector Output
2 = Inverted Totem-Pole Output
3 = Inverted Open-Collector Output

Sensor Aperture:
1 — 0.010” (2.54 mm)
5 — 0.050” (12.70 mm)

Emitter Aperture:
5 — 0.050” (12.70 mm)

Mounting configurations:
L — Solder leads termination
W — Wire termination

RoHS

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.

General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics’ own data and is considered accurate at time of going to print.

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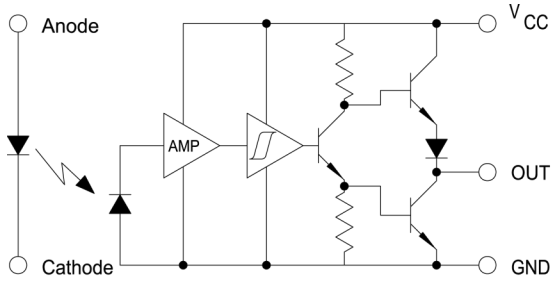
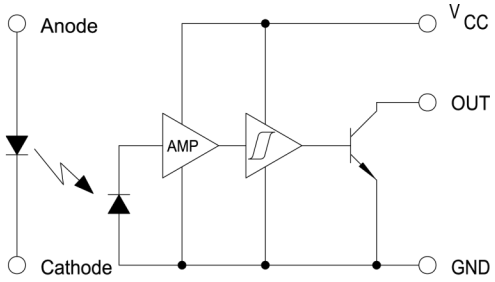
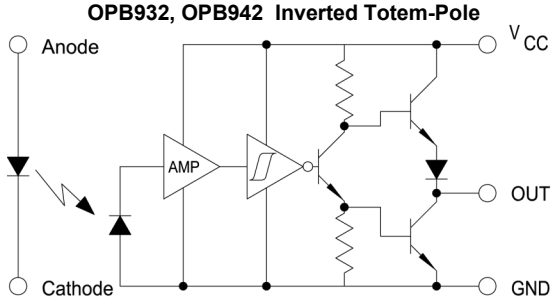
OPB930, OPB940 Buffered Totem-Pole



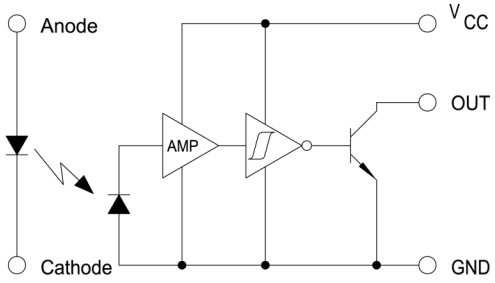
OPB931, OPB941 Buffered Open-Collector



OPB932, OPB942 Inverted Totem-Pole



OPB933 & OPB943 Inverted Open-Collector



Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)	
Supply Voltage, V_{CC} (not to exceed 3 seconds)	10 V
Operating Temperature Range	-40°C to +70° C
Storage Temperature Range	-40°C to +85° C
Lead Soldering Temperature (1/16 inch (1.6mm) from the case for 5 sec. with soldering iron (1)	260° C
Input Infrared LED	
Input Diode Power Dissipation (2)	100 mW
Output Photologic® Power Dissipation (3)	200 mW
Total Device Power Dissipation (4)	300 mW
Output Photologic®	
Voltage at Output Lead (Open Collector Output)	35 V
Diode Forward DC Current	40 mA
Diode Reverse DC Voltage	2 V

Notes:

(1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
(2) Derate linearly 2.22 mW/°C above 25°.
(3) Derate linearly 4.44 mW/°C above 25°.
(4) Derate linearly 6.66 mW/°C above 25°.
(5) OPB930L/OPB940L series devices are terminated with 0.020" square leads designed for PCBoard mounting.
(6) Methanol and isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
(7) All parameters tested using pulse technique.

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