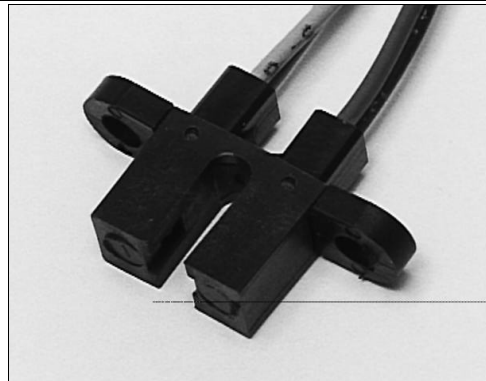


HOA1881

Transmissive Sensor

FEATURES

- Choice of phototransistor or photodarlington output
- 0.060 in.(1.52 mm)dia. detector aperture
- 0.125 in.(3.18 mm) slot width
- 18.0 in.(457 mm) min. 22 AWG UL 1429 wire leads



INFRA-9.TIF

DESCRIPTION

The HOA1881 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1881-011, -012) or photodarlington (HOA1881-013) encased in a black thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The lead wires of minimum length 18.0 in.(457 mm) provide alternate electrical connection when PC board mounting is not possible. The HOA1881 series employs plastic molded components. For additional component information see SEP8506, SDP8406, and SDP8106.

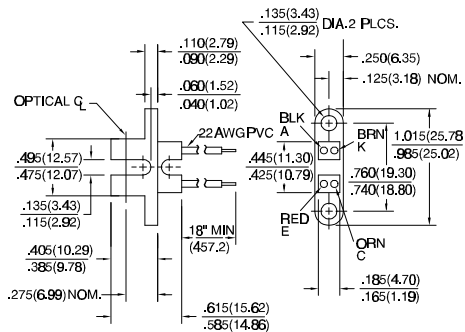
Housing material is nylon. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.

Wire color code and functions are:

- Black - IRED Anode
- Orange - Detector Collector
- Brown - IRED Cathode
- Red - Detector Emitter

OUTLINE DIMENSIONS in inches (mm)

Tolerance 3 plc decimals $\pm 0.010(0.25)$
2 plc decimals $\pm 0.020(0.51)$



DIM_052.cdr

HOA1881

Transmissive Sensor

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|---|---------------|-------------------|-----|-------------------|---------------|---|
| IR EMITTER | | | | | | |
| Forward Voltage | V_F | | | 1.6 | V | $I_F=20\text{ mA}$ |
| Reverse Leakage Current | I_R | | | 10 | μA | $V_R=3\text{ V}$ |
| DETECTOR | | | | | | |
| Collector-Emitter Breakdown Voltage HOA1881-011, -012 HOA1881-013 | $V_{(BR)CEO}$ | 30 15 | | | V | $I_C=100\ \mu\text{A}$ |
| Emitter-Collector Breakdown Voltage | $V_{(BR)ECO}$ | 5.0 | | | V | $I_E=100\ \mu\text{A}$ |
| Collector Dark Current HOA1881-011, -012 HOA1881-013 | I_{CEO} | | | 100 250 | nA | $V_{CE}=10\text{ V}$ $I_F=0$ |
| COUPLED CHARACTERISTICS | | | | | | |
| On-State Collector Current HOA1881-011 HOA1881-012 HOA1881-013 | $I_{C(ON)}$ | 0.3 1.8 4.0 | | | mA | $V_{CE}=5\text{ V}$ $I_F=20\text{ mA}$ |
| Collector-Emitter Saturation Voltage HOA1881-011 HOA1881-012 HOA1881-013 | $V_{CE(SAT)}$ | | | 0.4 0.4 1.1 | V | $I_F=20\text{ mA}$ $I_C=40\ \mu\text{A}$ $I_C=230\ \mu\text{A}$ $I_C=500\ \mu\text{A}$ |
| Rise And Fall Time HOA1881-011, -012 HOA1881-013 | t_r, t_f | | | 15 75 | μs | $V_{CC}=5\text{ V}, I_C=1\text{ mA}$ $R_L=1000\ \Omega$ $R_L=100\ \Omega$ |

ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

Operating Temperature Range -40°C to 85°C

Storage Temperature Range -40°C to 85°C

Soldering Temperature (5 sec) 240°C

IR EMITTER

Power Dissipation 100 mW ⁽¹⁾

Reverse Voltage 3 V

Continuous Forward Current 50 mA

DETECTOR

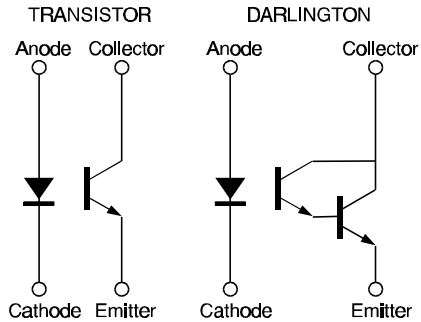
Collector-Emitter Voltage 30 V TRANS. 15 V DARLINGTON

Emitter-Collector Voltage 5 V 5 V

Power Dissipation 100 mW ⁽¹⁾ 100 mW ⁽¹⁾

Collector DC Current 30 mA 30 mA

SCHEMATIC



Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

Honeywell

HOA1881

Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

gra_092.ds4

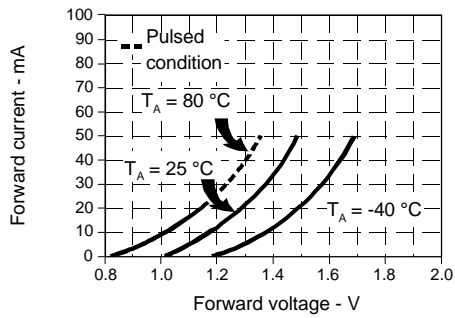


Fig. 2 Non-Saturated Switching Time vs Load Resistance

gra_096.ds4



Fig. 3 Dark Current vs Temperature

gra_301.cdr



Fig. 4 Collector Current vs Ambient Temperature

gra_095.ds4



All Performance Curves Show Typical Values

HOA1881
Transmissive Sensor

Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

Honeywell

317

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Optical Switches, Transmissive, Phototransistor Output](#) *category:*

Click to view products by [Honeywell](#) *manufacturer:*

Other Similar products are found below :

[LTH-301-07](#) [LTH-301-23](#) [E3C-X2C](#) [E3S-LS20B4S1](#) [RPI-2501](#) [KRA021](#) [LTH-309-08](#) [HOA1961-055](#) [RPI-0128T81](#) [LTH-306-01](#)
[ITR1205ST11A/TR](#) [ZPT-3528C-14-Z2](#) [RPI-125](#) [RPI-243](#) [EE-SX153](#) [EE-SX675P-WR 1M](#) [EE-SX952P-R 1M](#) [EE-SX971-C1](#) [OPB806](#)
[OPB853A3](#) [EE-SX910-R 1M](#) [GP1S396HCP0F](#) [EE-SX1128](#) [OPB857Z](#) [EE-SV3-B](#) [EE-SJ3-D](#) [RPI-0226](#) [EE-SX951P-W 1M](#) [EE-SX954-W](#)
[1M](#) [EE-SX672R](#) [EE-SX954P-W 1M](#) [EE-SX952-R 1M](#) [EE-SX953-W 1M](#) [EE-SX670P-WR 1M](#) [EE-SX952P-W 1M](#) [LTH-301-32](#) [OPB852A1](#)
[OPB880N11Z](#) [OPB890L11Z](#) [OPB820S10](#) [OPB867T55](#) [OPB842W55Z](#) [OPB370L55](#) [EE-SX1321](#) [GP1S396HCPSF](#) [OPB841L55](#)
[OPB830L55](#) [OPB860T55](#) [OPB872T55](#) [EE-SX673P-WR 1M](#)