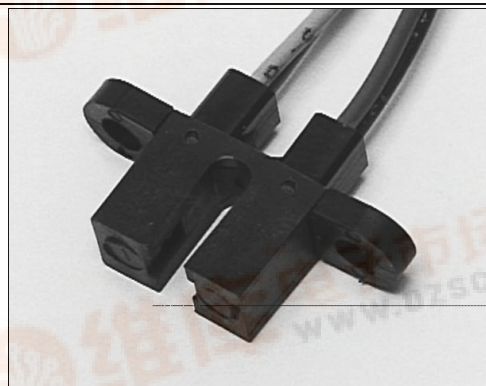


HOA1881

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.

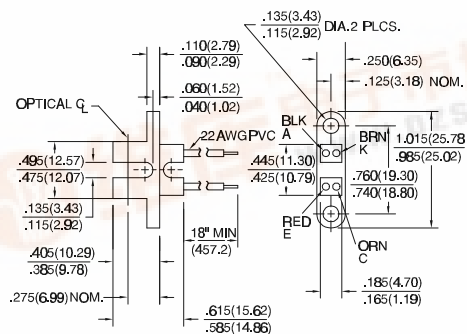
Housing material is nylon. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.

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

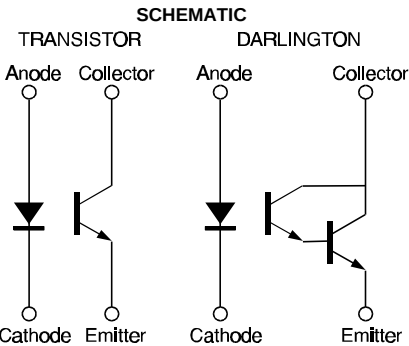
Transmissive Sensor

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 mA
Reverse Leakage Current	I _R			10	μA	V _R =3 V
DETECTOR						
Collector-Emitter Breakdown Voltage HOA1881-011, -012 HOA1881-013	V _{(BR)CEO}	30 15			V	I _C =100 μA
Emitter-Collector Breakdown Voltage	V _{(BR)ECO}	5.0			V	I _E =100 μA
Collector Dark Current HOA1881-011, -012 HOA1881-013	I _{CEO}			100 250	nA	V _{CE} =10 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 V I _F =20 mA
Collector-Emitter Saturation Voltage HOA1881-011 HOA1881-012 HOA1881-013	V _{CE(SAT)}			0.4 0.4 1.1	V	I _F =20 mA I _C =40 μA I _C =230 μA I _C =500 μA
Rise And Fall Time HOA1881-011, -012 HOA1881-013	t _r , t _f		15 75		μs	V _{CC} =5 V, I _C =1 mA R _L =1000 Ω R _L =100 Ω

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. DARLINGTON
Emitter-Collector Voltage	5 V	15 V
Power Dissipation	100 mW ⁽¹⁾	5 V
Collector DC Current	30 mA	100 mW ⁽¹⁾ 30 mA



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

HOA1881

Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

gra_092.ds4

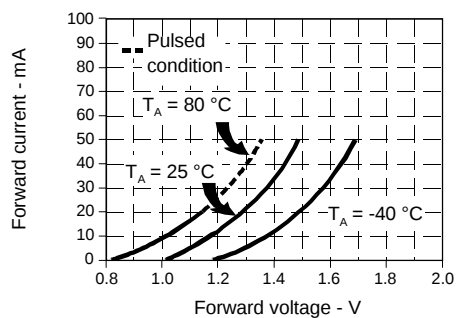


Fig. 2 Non-Saturated Switching Time vs Load Resistance

gra_096.ds4

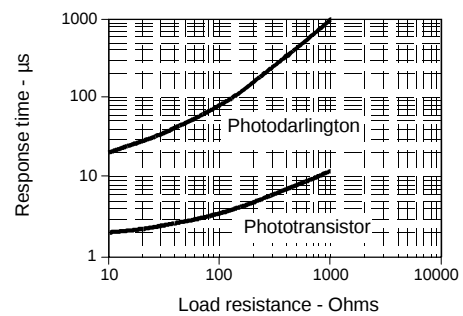


Fig. 3 Dark Current vs Temperature

gra_301.cdr

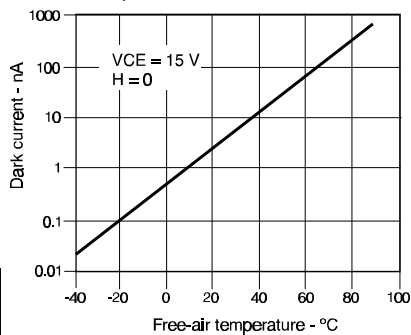
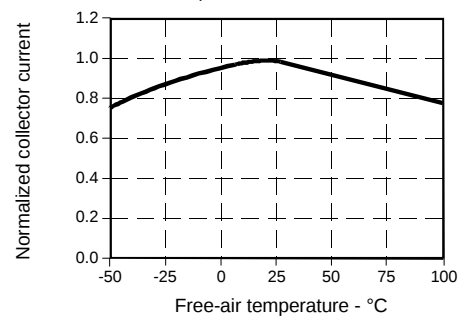


Fig. 4 Collector Current vs Ambient Temperature

gra_095.ds4



All Performance Curves Show Typical Values

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317