

HOA1885

Transmissive Sensor

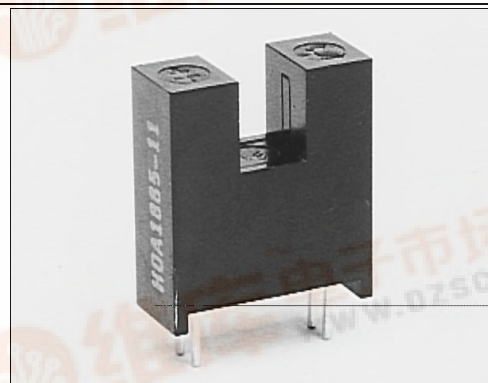
FEATURES

- Choice of phototransistor or photodarlington output
- High profile package for raised optical centerline
- Ambient light and dust protective filter
- 0.200 in.(5.08 mm) slot width

DESCRIPTION

The HOA1885 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1885- 011, - 012) or photodarlington (HOA1885- 013) encased in a black thermoplastic housing with IR transmissive inserts which form the optical windows. This arrangement provides excellent protection against ambient light while eliminating aperture openings which could be clogged by airborne contaminants. The high profile package raises the optical centerline to a nominal height of 0.063 in.(16.0 mm) from the mounting plane. This is a significant feature for applications in which surrounding components might interfere with the interrupting element if the optical centerline were lower. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The HOA1885 series employs plastic molded components and has a 0.050 in.(1.27 mm) x 0.060 in.(1.52 mm) vertical aperture in front of the detector. For additional component information see SEP8506/8706, SDP8406, and SDP8106.

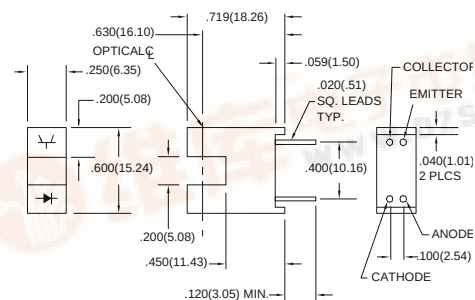
Housing material is polycarbonate. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.



INFRA-69.TIF

OUTLINE DIMENSIONS in inches (mm)

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



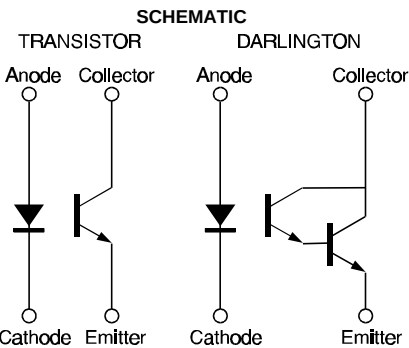
DIM_055.ds4

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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 HOA1885-011, -012 HOA1885-013	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 HOA1885-011, -012 HOA1885-013	I _{CEO}			100 250	nA	V _{CE} =10 V I _F =0
COUPLED CHARACTERISTICS						
On-State Collector Current HOA1885-011 HOA1885-012 HOA1885-013	I _{C(ON)}	0.3 1.8 4.0			mA	V _{CE} =5 V I _F =20 mA
Collector-Emitter Saturation Voltage HOA1885-011 HOA1885-012 HOA1885-013	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 HOA1885-011, -012 HOA1885-013	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
Emitter-Collector Voltage	5 V
Power Dissipation	100 mW ⁽¹⁾
Notes	
1. Derate linearly at 0.78 mW/°C above 25°C.	



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

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Fig. 1 IRED Forward Bias Characteristics

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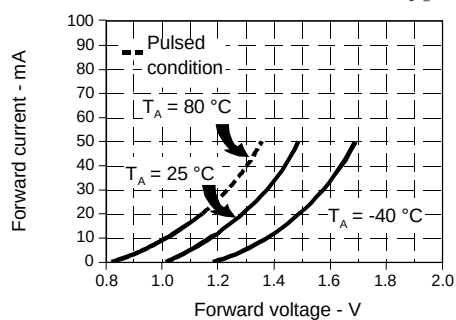


Fig. 2 Non-Saturated Switching Time vs Load Resistance

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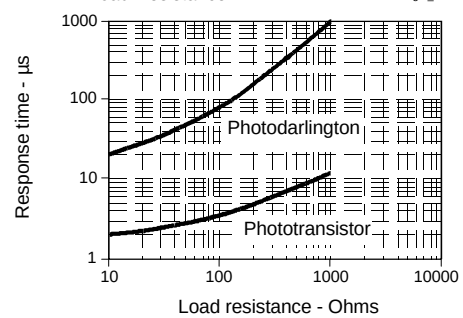


Fig. 3 Dark Current vs Temperature

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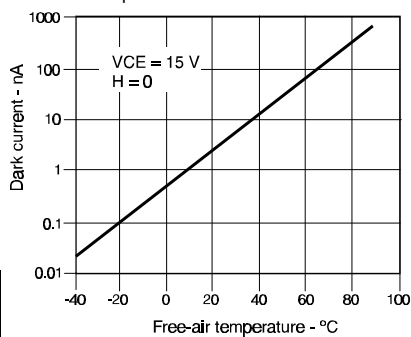
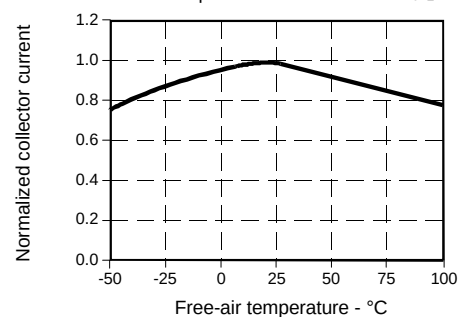


Fig. 4 Collector Current vs Ambient Temperature

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All Performance Curves Show Typical Values

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