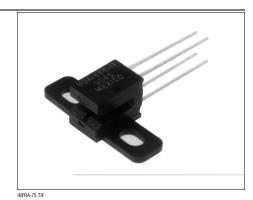
# **HOA1884**

**Transmissive Sensor** 

### FEATURES

- Choice of phototransistor or photodarlington output
- Side mount package
- Accurate position sensing
- 0.125 in.(3.18 mm) slot width



#### DESCRIPTION

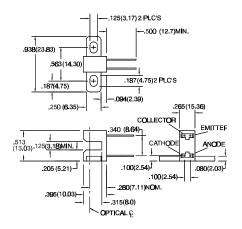
The HOA1884 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1884-011, -012) or photodarlington (HOA1884-013) encased in a black thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The side mounting package is useful in applications in which the interruptive element is parallel to the mounting plane. Both emitter and detector have a 0.020 in.(.508 mm) x 0.040 in.(1.02 mm) vertical aperture. The HOA1884 series employs plastic molded components. For additional component information see SEP8506, SDP8406, and SDP8106.

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

#### OUTLINE DIMENSIONS in inches (mm)

Tolerance 3 plc decimals

±0.010(0.25) 2 plc decimals ±0.020(0.51)



DIM 054.cdr

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# HOA1884

**Transmissive Sensor** 

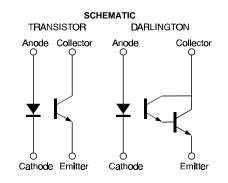
ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)						
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
IR EMITTER						
Forward Voltage	VF			1.6	V	l <sub>F</sub> =20 mA
Reverse Leakage Current	IB			10	μA	V <sub>R</sub> =3 V
DETECTOR Collector-Emitter Breakdown Voltage HOA1884-011, -012	V <sub>(BR)</sub> ceo	30			V	Ic=100 μΑ
HOA1884-013		15				
Emitter-Collector Breakdown Voltage	V(BR)ECO	5.0			V	I <sub>E</sub> =100 μA
Collector Dark Current	ICEO				nA	V <sub>CE</sub> =10 V
HOA1884-011, -012				100		IF=0
HOA1884-013				250		
COUPLED CHARACTERISTICS On-State Collector Current HOA1884-011 HOA1884-012 HOA1884-013	I <sub>C(ON)</sub>	0.3 1.8 4.0			mA	Vce=5 V I⊧=20 mA
Collector-Emitter Saturation Voltage HOA1884-011 HOA1884-012 HOA1884-013	Vce(sat)			0.4 0.4 1.1	V	I⊧=20 mA Ic=40 μA Ic=230 μA Ic=500 μA
Rise And Fall Time HOA1884-011, -012 HOA1884-013	t <sub>r</sub> , t <sub>f</sub>		15 75		μs	Vcc=5 V, lc=1 mA RL=1000 Ω RL=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 TRANS. 30 V Collector-Emitter Voltage Emitter-Collector Voltage 5 V Power Dissipation  $100 \text{ mW}^{(1)}$ Collector DC Current 30 mA

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DARLINGTON

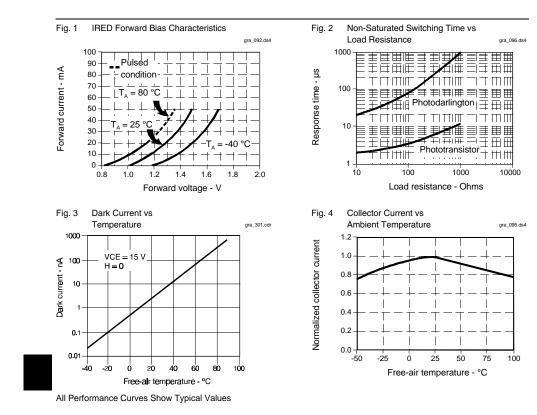
15 V

100 mW (1)

30 mA

5 V

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