



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

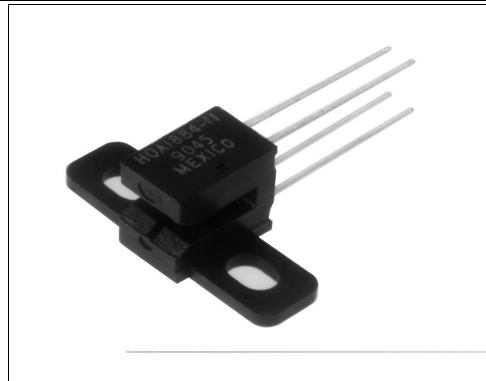


HOA1884

Transmissive Sensor

FEATURES

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



INFRA-75.TIF

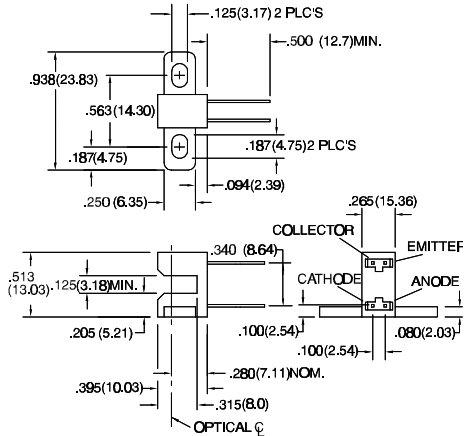
DESCRIPTION

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

HOA1884

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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 | $I_F=20\text{ mA}$ |
| Reverse Leakage Current | I_R | | | 10 | μA | $V_R=3\text{ V}$ |
| DETECTOR | | | | | | |
| Collector-Emitter Breakdown Voltage HOA1884-011, -012 HOA1884-013 | $V_{(BR)CEO}$ | 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 HOA1884-011, -012 HOA1884-013 | I_{CEO} | | | 100 250 | nA | $V_{CE}=10\text{ V}$ $I_F=0$ |
| COUPLED CHARACTERISTICS | | | | | | |
| On-State Collector Current HOA1884-011 HOA1884-012 HOA1884-013 | $I_{C(ON)}$ | 0.3 1.8 4.0 | | | mA | $V_{CE}=5\text{ V}$ $I_F=20\text{ mA}$ |
| Collector-Emitter Saturation Voltage HOA1884-011 HOA1884-012 HOA1884-013 | $V_{CE(SAT)}$ | | | 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 HOA1884-011, -012 HOA1884-013 | 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

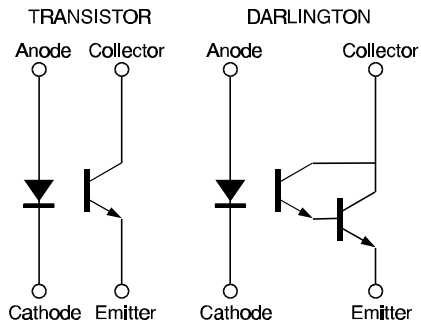
Collector-Emitter Voltage 30 V TRANS. 15 V DARLINGTON

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.

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HOA1884

Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

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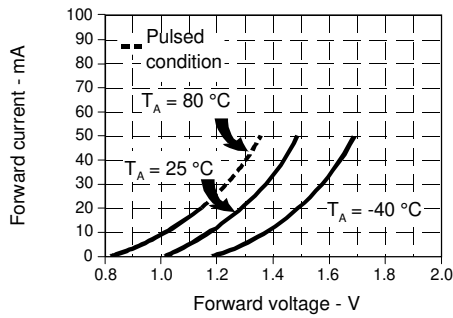


Fig. 2 Non-Saturated Switching Time vs Load Resistance

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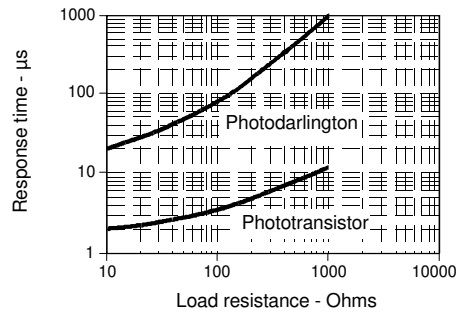


Fig. 3 Dark Current vs Temperature

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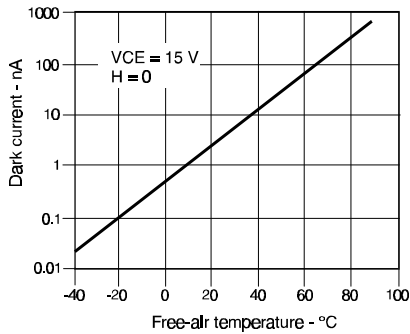
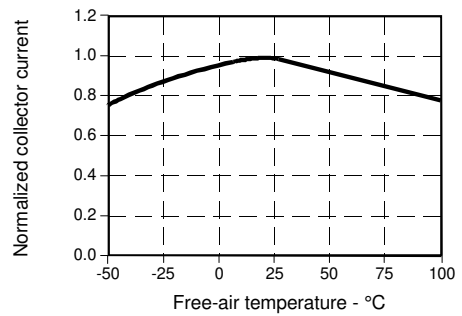


Fig. 4 Collector Current vs Ambient Temperature

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All Performance Curves Show Typical Values

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