



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!



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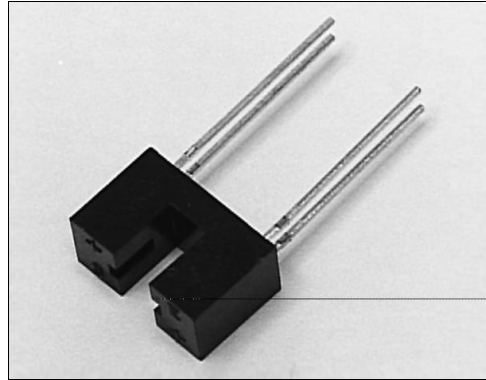


HOA1883

Transmissive Sensor

FEATURES

- Choice of phototransistor or photodarlington output
- Wide lead spacing
- 0.060 in.(1.52 mm)dia. detector aperture
- 0.140 in.(3.56 mm) slot width



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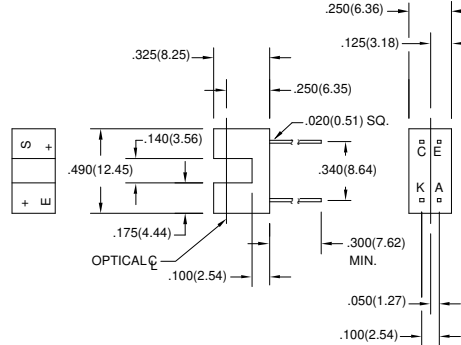
DESCRIPTION

The HOA1883 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1883-011, -012) or photodarlington (HOA1883-013) encased in a black thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The HOA1883 series employs plastic molded components. For additional component information see SEP8506, SDP8406, and SDP8106.

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

OUTLINE DIMENSIONS in inches (mm)

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



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HOA1883

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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 HOA1883-011, -012 HOA1883-013	$V_{(BR)CEO}$	30 15			V	$I_C=100\text{ }\mu\text{A}$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5.0			V	$I_E=100\text{ }\mu\text{A}$
Collector Dark Current HOA1883-011, -012 HOA1883-013	I_{CEO}			100 250	nA	$V_{CE}=10\text{ V}$ $I_F=0$
COUPLED CHARACTERISTICS						
On-State Collector Current HOA1883-011 HOA1883-012 HOA1883-013	$I_{C(ON)}$	0.3 1.8 4.0			mA	$V_{CE}=5\text{ V}$ $I_F=20\text{ mA}$
Collector-Emitter Saturation Voltage HOA1883-011 HOA1883-012 HOA1883-013	$V_{CE(SAT)}$			0.4 0.4 1.1	V	$I_F=20\text{ mA}$ $I_C=40\text{ }\mu\text{A}$ $I_C=230\text{ }\mu\text{A}$ $I_C=500\text{ }\mu\text{A}$
Rise And Fall Time HOA1883-011, -012 HOA1883-013	t_r, t_f			15 75	μs	$V_{CC}=5\text{ V}, I_C=1\text{ mA}$ $R_L=1000\text{ }\Omega$ $R_L=100\text{ }\Omega$

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

Emitter-Collector Voltage 5 V

Power Dissipation 100 mW ⁽¹⁾

TRANS. DARLINGTON

15 V

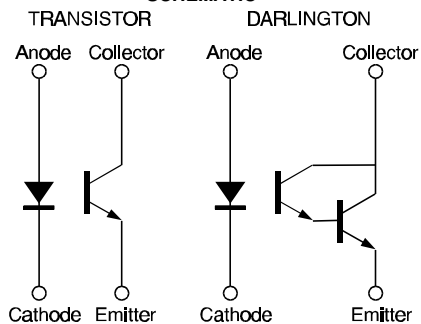
5 V

100 mW ⁽¹⁾

Notes

1. Derate linearly at 0.78 mW/°C above 25°C.

SCHEMATIC



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

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Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

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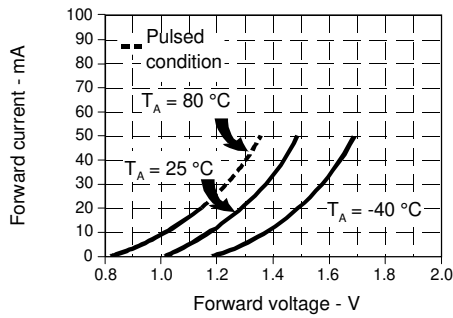


Fig. 2 Non-Saturated Switching Time vs Load Resistance

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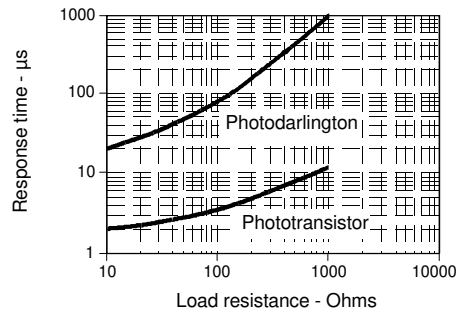


Fig. 3 Dark Current vs Temperature

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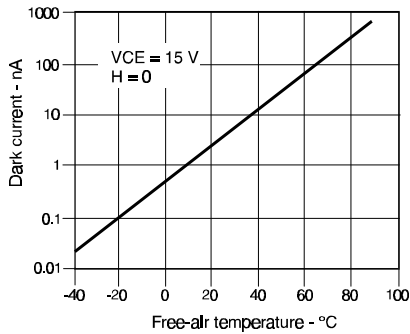
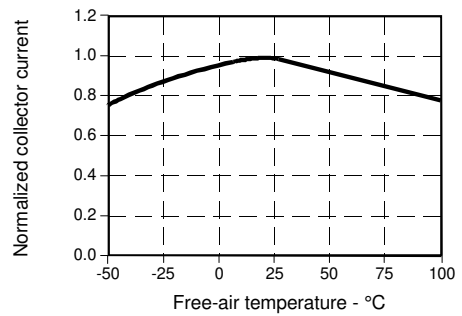


Fig. 4 Collector Current vs Ambient Temperature

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All Performance Curves Show Typical Values

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