

HOA1883

Transmissive Sensor

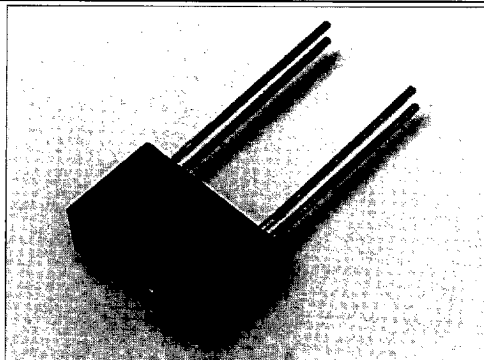
FEATURES

- 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

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.

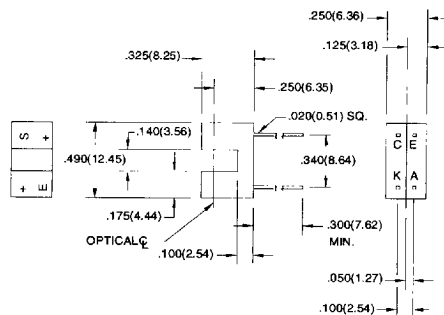
Housing material is polycarbonate. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.



INFRA-41.TIF

OUTLINE DIMENSIONS in inches (mm)

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



DIM_068.dwg

4551830 0022699 182

Honeywell

HOA1883

Transmissive Sensor

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

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 TRANS. DARLINGTON

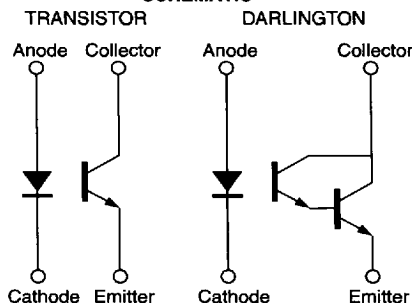
Emitter-Collector Voltage 5 V 5 V

Power Dissipation 100 mW ⁽¹⁾ 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.

4551830 0022700 724

Honeywell

HOA1883

Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

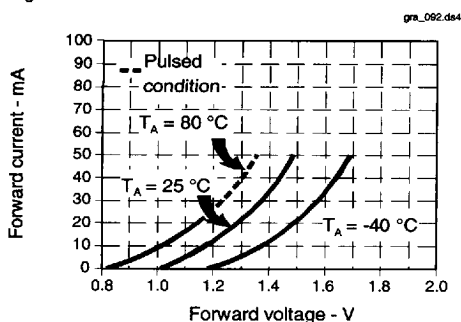


Fig. 2 Non-Saturated Switching Time vs Load Resistance

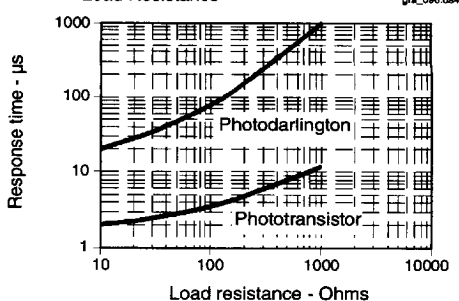


Fig. 3 Dark Current vs Temperature

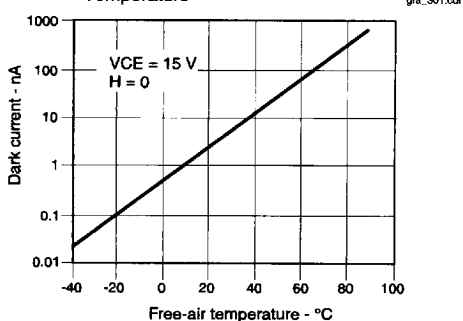
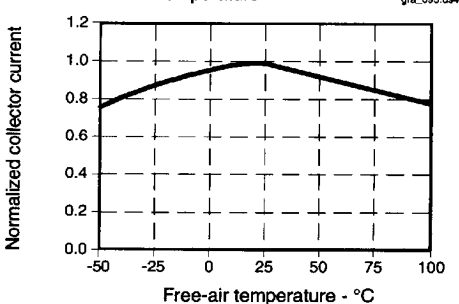


Fig. 4 Collector Current vs Ambient Temperature



All Performance Curves Show Typical Values

4551830 0022701 660

Honeywell

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