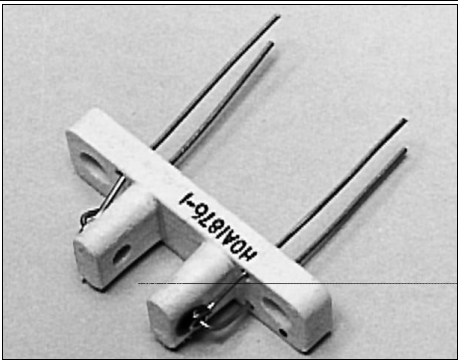


HOA1876

Transmissive Sensor

FEATURES

- Choice of phototransistor or photodarlington output
- Wide lead spacing
- Wide operating temperature range (- 55°C to +100°C)
- 0.200 in.(5.08 mm) slot width



INFRA-30.TIF

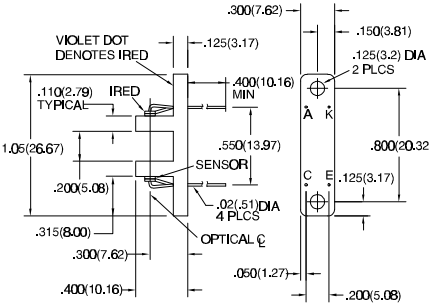
DESCRIPTION

The HOA1876 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1876- 001, - 002) or photodarlington (HOA1876- 003) encased in a white thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The HOA1876 series has a 0.050 in.(1.27 mm) dia. detector aperture and employs metal can packaged components. For additional component information see SE1450, SD1440, and SD1410.

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



DIM_048.cdr

HOA1876

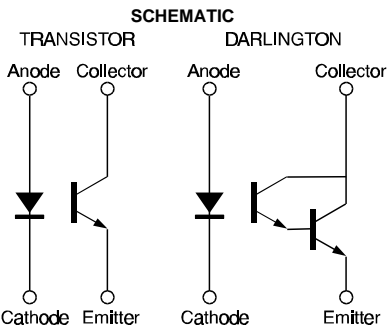
Transmissive Sensor

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	$V_{(BR)CEO}$				V	$I_C=100\text{ }\mu\text{A}$
HOA1876-001, -002		30				
HOA1876-003		15				
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5.0			V	$I_E=100\text{ }\mu\text{A}$
Collector Dark Current	I_{CEO}			100	nA	$V_{CE}=10\text{ V}$
HOA1876-001, -002				250		$I_F=0$
HOA1876-003						
COUPLED CHARACTERISTICS						
On-State Collector Current	$I_{C(ON)}$				mA	$V_{CE}=5\text{ V}$
HOA1876-001		0.15				$I_F=30\text{ mA}$
HOA1876-002		0.6				
HOA1876-003		1.8				
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	$I_F=30\text{ mA}$
HOA1876-001				0.4		$I_C=20\text{ }\mu\text{A}$
HOA1876-002				0.4		$I_C=80\text{ }\mu\text{A}$
HOA1876-003				1.1		$I_C=230\text{ }\mu\text{A}$
Rise And Fall Time	t_r, t_f			15	μs	$V_{CC}=5\text{ V}, I_C=1\text{ mA}$
HOA1876-001, -002				75		$R_L=1000\text{ }\Omega$
HOA1876-003						$R_L=100\text{ }\Omega$

ABSOLUTE MAXIMUM RATINGS
(25°C Free-Air Temperature unless otherwise noted)

Operating Temperature Range -55°C to 100°C
Storage Temperature Range -55°C to 125°C
Soldering Temperature (10 sec) 260°C

IR EMITTER		
Power Dissipation	75 mW ⁽¹⁾	
Reverse Voltage	3 V	
Continuous Forward Current	50 mA	
DETECTOR		
Collector-Emitter Voltage	TRANS. 30 V	DARLINGTON 15 V
Emitter-Collector Voltage	5 V	5 V
Power Dissipation	75 mW ⁽¹⁾	75 mW ⁽¹⁾
Collector DC Current	30 mA	30 mA



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

Honeywell

HOA1876

Transmissive Sensor

Fig. 1 IRED Forward Bias Characteristics

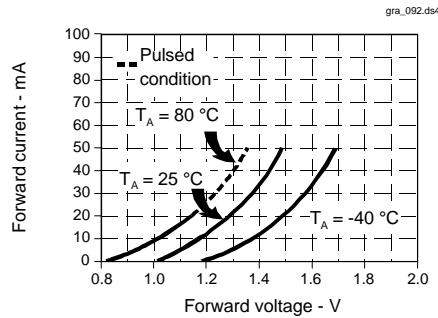


Fig. 2 Non-Saturated Switching Time vs Load Resistance

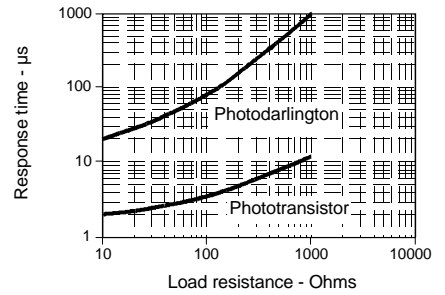


Fig. 3 Dark Current vs Temperature

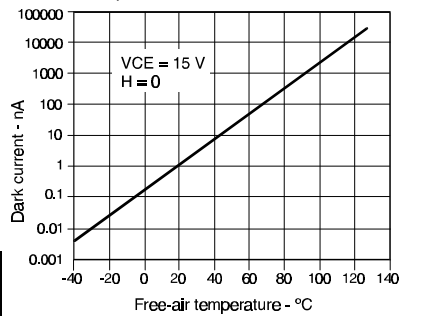
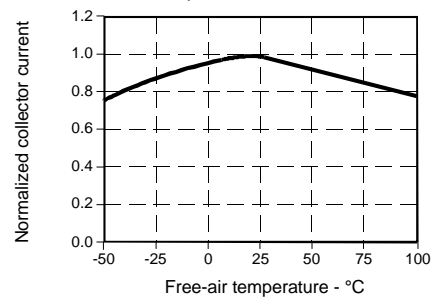


Fig. 4 Collector Current vs Ambient Temperature



All Performance Curves Show Typical Values

HOA1876

Transmissive Sensor

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

Honeywell

305