

Transmissive Sensor

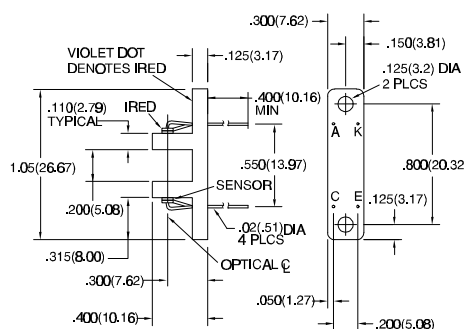
- Choice of phototransistor or photodarlington output
- Wide lead spacing
- Wide operating temperature range (- 55°C to +100°C)
- 0.200 in.(5.08 mm) slot width



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.



Tolerance	3 plc decimals	±0.010(0.25)
	2 plc decimals	±0.020(0.51)



DIM 048.cdr

HOA1876

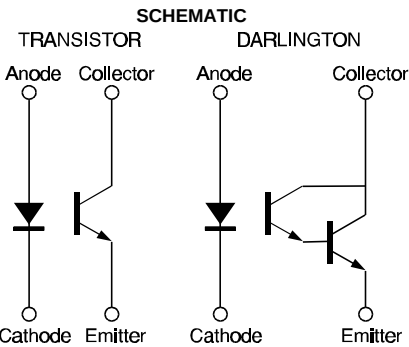
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ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)						
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
IR EMITTER						
Forward Voltage	V_F			1.6	V	$I_F=20\text{ mA}$
Reverse Leakage Current	I_R			10	μA	$V_R=3\text{ V}$
DETECTOR						
Collector-Emitter Breakdown Voltage HOA1876-001, -002 HOA1876-003	$V_{(BR)CEO}$	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 HOA1876-001, -002 HOA1876-003	I_{CEO}		100 250		nA	$V_{CE}=10\text{ V}$ $I_F=0$
COUPLED CHARACTERISTICS						
On-State Collector Current HOA1876-001 HOA1876-002 HOA1876-003	$I_{C(ON)}$	0.15 0.6 1.8			mA	$V_{CE}=5\text{ V}$ $I_F=30\text{ mA}$
Collector-Emitter Saturation Voltage HOA1876-001 HOA1876-002 HOA1876-003	$V_{CE(SAT)}$		0.4 0.4 1.1		V	$I_F=30\text{ mA}$ $I_C=20\text{ }\mu\text{A}$ $I_C=80\text{ }\mu\text{A}$ $I_C=230\text{ }\mu\text{A}$
Rise And Fall Time HOA1876-001, -002 HOA1876-003	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 -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		
	TRANS.	DARLINGTON
Collector-Emitter Voltage	30 V	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.

HOA1876

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Fig. 1 IRED Forward Bias Characteristics

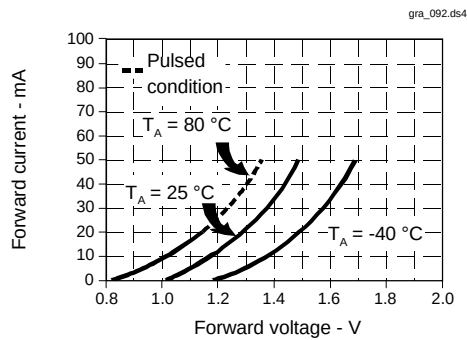


Fig. 2 Non-Saturated Switching Time vs Load Resistance

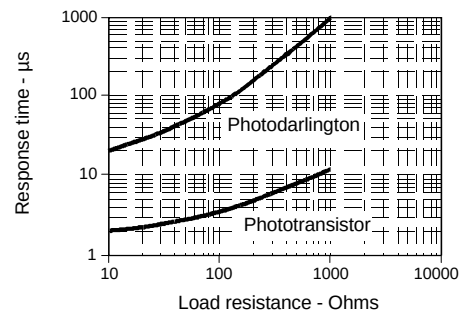


Fig. 3 Dark Current vs Temperature

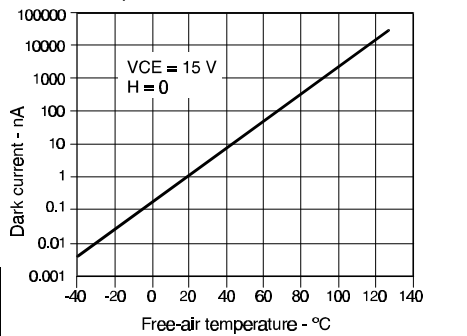
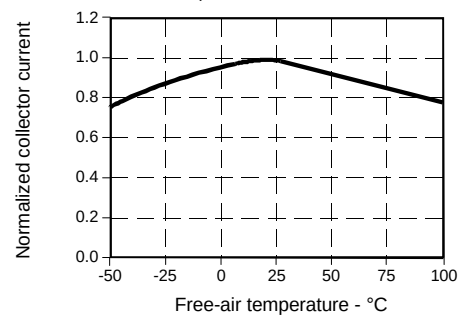


Fig. 4 Collector Current vs Ambient Temperature



All Performance Curves Show Typical Values

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305