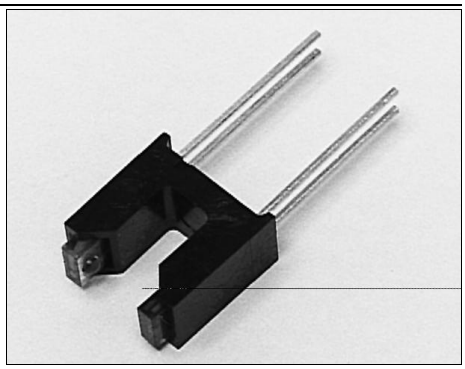
HOA0825

Transmissive Sensor

FEATURES

- Phototransistor output
- Four mounting configurations
- 0.165 in.(4.2 mm) slot width



INFRA-52.TIF

DESCRIPTION

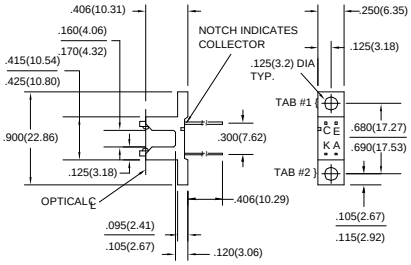
The HOA0825 series consists of an infrared emitting diode facing an NPN silicon phototransistor encased in a black thermoplastic housing. A slot in the housing between emitter and detector provides the means for mechanically interrupting the emitter beam. The phototransistor switching takes place whenever an opaque object passes through the slot between emitter and detector. The HOA0825 series employs plastic molded components. For additional component information see SEP8506 and SDP8406.

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)

HOA0825-003



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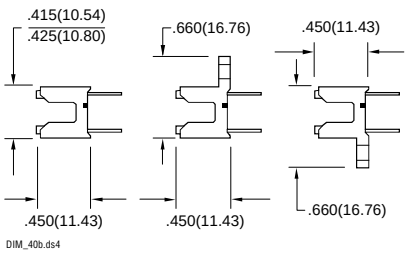
HOA0825-001 **HOA0825-002** **HOA0825-004**



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

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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 mA
Reverse Leakage Current	I_R			10	µA	V_R=3 V
DETECTOR						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	I_C=100 µA
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5.0			V	I_E=100 µA
Collector Dark Current	I_{CEO}			100	nA	V_{CE}=10 V, I_F=0
COUPLED CHARACTERISTICS						
On-State Collector Current	$I_{C(ON)}$				mA	V_{CE}=0.5 V
HOA0825-001, -002, -003, -004		0.5				I_F=20 mA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	I_F=20 mA I_C=250 µA
Rise And Fall Time	t_r, t_f		15		µs	V_{CC}=5 V, I_C=1 mA R_L=1000 Ω

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)
Collector DC Current	30 mA

SCHEMATIC

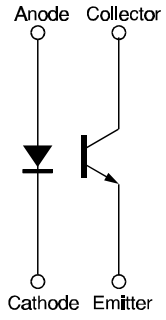

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Fig. 1 IRED Forward Bias Characteristics

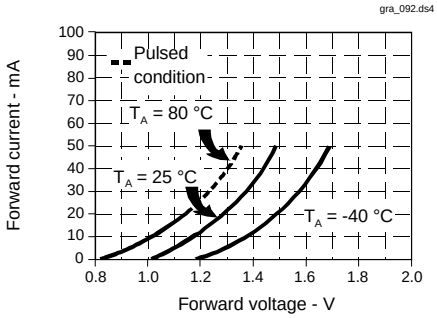


Fig. 2 Non-Saturated Switching Time vs Load Resistance

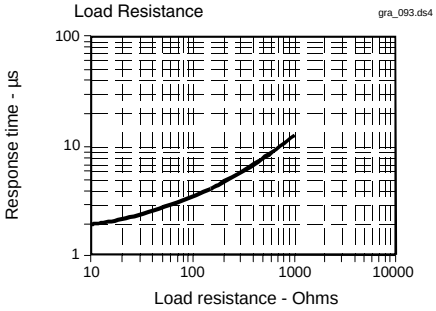


Fig. 3 Dark Current vs Temperature

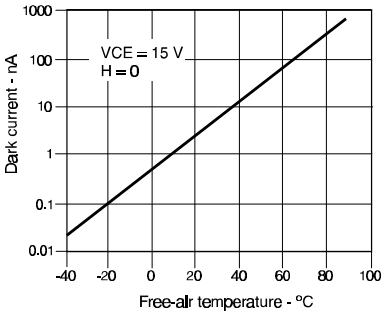
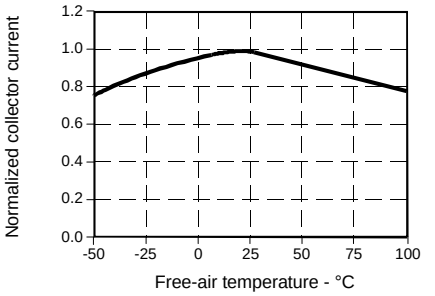


Fig. 4 Collector Current vs Ambient Temperature



All Performance Curves Show Typical Values

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