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.

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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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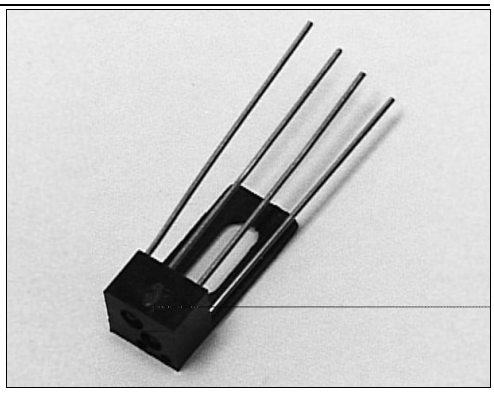
HOA2498

Reflective Sensor

FEATURES

- Choice of phototransistor or photodarlington output
- Focused for maximum response
- Wide operating temperature range (- 55°C to +100°C)



INFRA-64.TIF

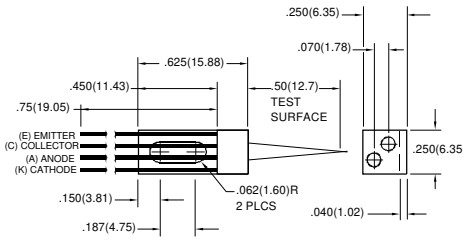
DESCRIPTION

The HOA2498 series consists of an infrared emitting diode and an NPN silicon phototransistor (HOA2498- 001, - 002) or photodarlington (HOA2498- 003), encased side- by- side on converging optical axes in a black thermoplastic housing. The detector responds to radiation from the IRED only when a reflective object passes within its field of view. The HOA2498 series employs metal can packaged components. For additional component information see SE1450, SD1440, and SD1410.

Housing material is polyester. 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)



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HOA2498

Reflective 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 mA
Reverse Leakage Current	I_R			10	µA	V_R=3 V
DETECTOR						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$				V	I_C=100 µA
HOA2498-001, -002		30				
HOA2498-003		15				
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5.0			V	I_E=100 µA
Collector Dark Current	I_{CEO}				nA	V_{CE}=10 V
HOA2498-001, -002				100		I_F=0
HOA2498-003				250		
COUPLED CHARACTERISTICS						
On-State Collector Current	$I_{C(ON)}$				mA	V_{CE}=5 V
HOA2498-001		0.04				I_F=30 mA
HOA2498-002		0.16				(1)
HOA2498-003		2.0				
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$				V	I_F=30 mA (1)
HOA2498-001				0.4		I_C=5 µA
HOA2498-002				0.4		I_C=20 µA
HOA2498-003				1.1		I_C=250 µA
Rise And Fall Time	t_r, t_f				µs	V_{CC}=5 V, I_C=1 mA
HOA2498-001, -002			15			R_L=1000 Ω
HOA2498-003			75			R_L=100 Ω

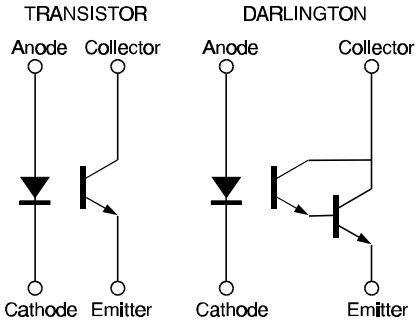
Notes
1. Test surface is a front surface mirror (polished aluminum, 85% reflectance) located 0.50 in.(12.7 mm) from the front surface of the device.

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

SCHEMATIC



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HOA2498

Reflective Sensor

Fig. 1 IRED Forward Bias Characteristics

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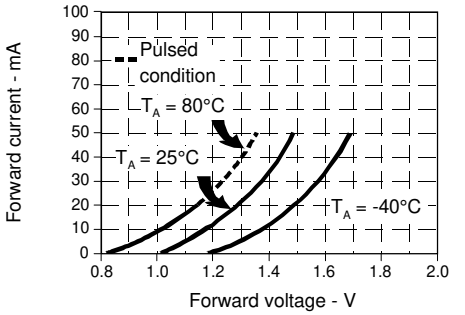

Fig. 2 Non-Saturated Switching Time vs Load Resistance

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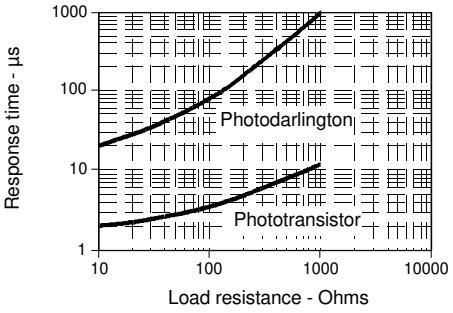

Fig. 3 Dark Current vs Temperature

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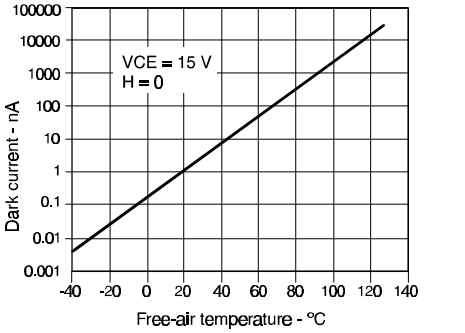


Fig. 4 Collector Current vs Ambient Temperature

gra_076.ds4

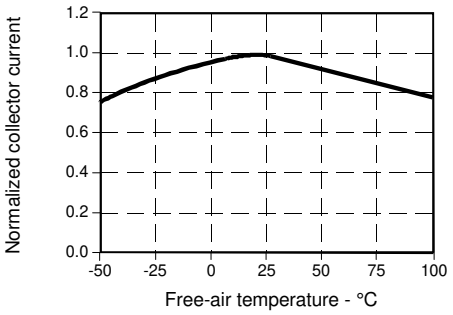


Fig. 5 Collector Current vs Distance to Reflective Surface

gra_084.ds4

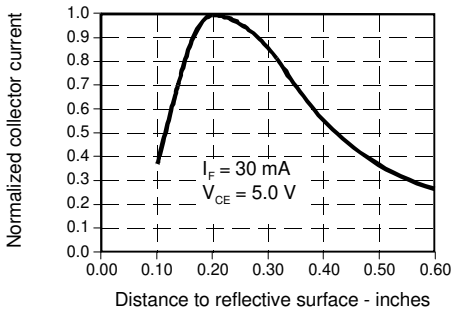
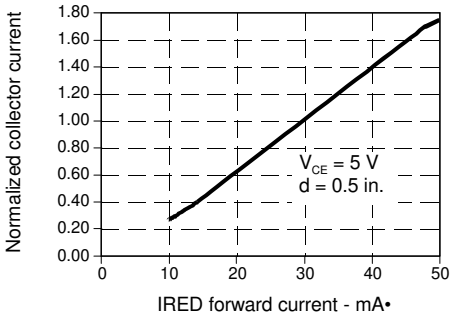


Fig. 6 Collector Current vs IRED Forward Current

gra_085.ds4



All Performance Curves Show Typical Values

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Reflective Sensor

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