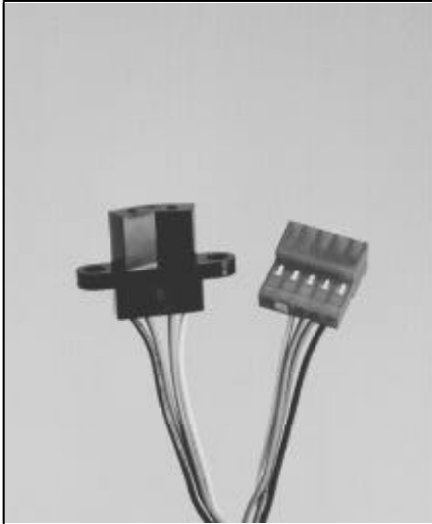


# Reflective Object Sensor Type OPB755T



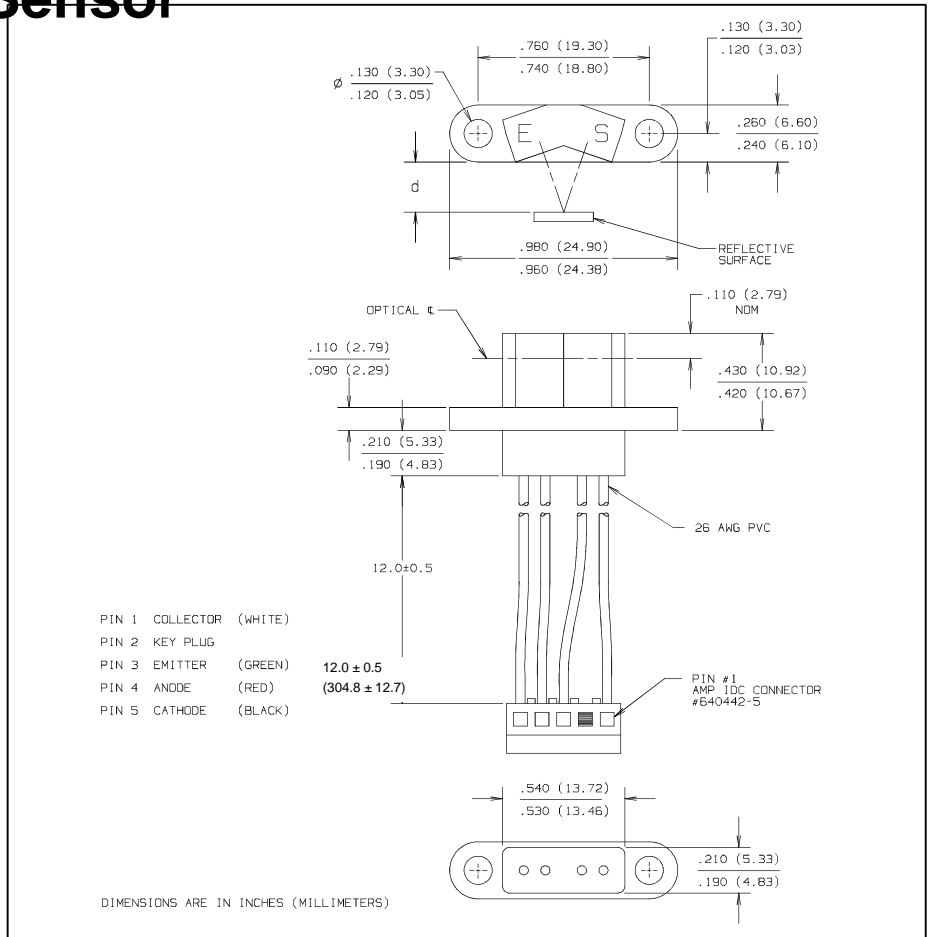
## Features

- High contrast ratio, 1000 to 1 minimum
- 12.0" ± 0.5" min. UL#1429 26 AWG wire leads terminated into an AMP #640442-5 connector
- Low cost plastic housing

## Description

The OPB755T reflective assembly features a phototransistor output designed to decrease low-level light gain while not affecting the high-level light gain. Available without mounting tabs as OPB755N.

Available with PC Board mountable leads as OPB750 series. Logic output sensors available in the OPB760/OPB770 series.



## Absolute Maximum Ratings (T<sub>A</sub> = 25° C unless otherwise noted)

Storage and Operating Temperature Range . . . . . -40° C to +80° C

### Input Diode

Forward DC Current . . . . . 50 mA  
Peak Forward Current (1 μs pulse width, 300 pps) . . . . . 3.0 A  
Reverse DC Voltage . . . . . 2.0 V  
Power Dissipation . . . . . 100 mW<sup>(1)</sup>

### Output Phototransistor

Collector-Emitter Voltage . . . . . 30 V  
Collector DC Current . . . . . 30 mA  
Power Dissipation . . . . . 100 mW<sup>(1)</sup>

### Notes:

- (1) Derate Linearly 1.82 mW/° C above 25° C.
- (2) All parameters tested using pulse technique.
- (3) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (4) Photocurrent is measured using an Eastman Kodak Neutral White test card having a 90% diffuse reflectance as a reflecting surface. Reference: Eastman Kodak, Catalog #1257795.
- (5) I<sub>C(OFF)</sub> is the photocurrent measured with current to the input diode and a 5% reflecting surface.

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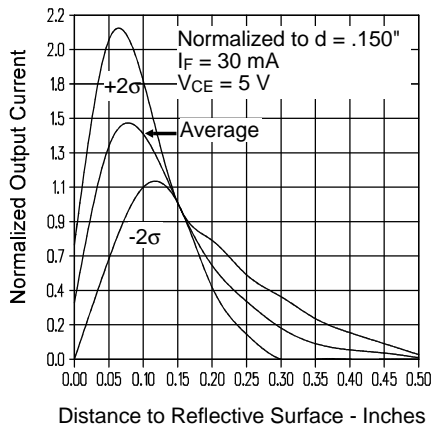
Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
<b>Input Diode</b>					
$V_F$	Forward Voltage		1.80	V	$I_F = 40\text{ mA}$
$I_R$	Reverse Current		100	$\mu\text{A}$	$V_R = 2.0\text{ V}$
<b>Output Phototransistor</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 100\ \mu\text{A}$
$I_{CEO}$	Collector Dark Current		100	nA	$V_{CE} = 10\text{ V}, I_F = 0, H = 0$
<b>Coupled</b>					
$V_{CE(SAT)}$	Saturation Voltage		0.40	V	$I_C = 150\ \mu\text{A}, I_F = 30\text{ mA}, d = 0.22''$
$I_{C(ON)}$	On-State Collector Current	500		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.08''^{(4)}$
		375		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.15''^{(4)}$
		250		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.22''^{(4)}$
$I_{C(OFF)}$	Off-State Collector Current		250	nA	$I_F = 30\text{ mA}, V_{CE} = 5\text{ V},^{(5)}$ $d = 0.08'', 0.15'', 0.22''$

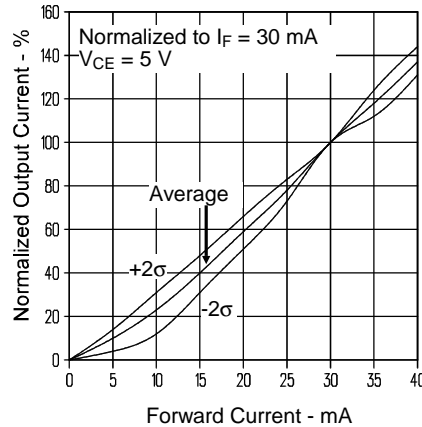
REFLECTIVE OBJECT SENSOR

## Typical Performance Curves

**Normalized Collector Current vs. Object Distance**



**Normalized Output Current vs. Forward Current**



Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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