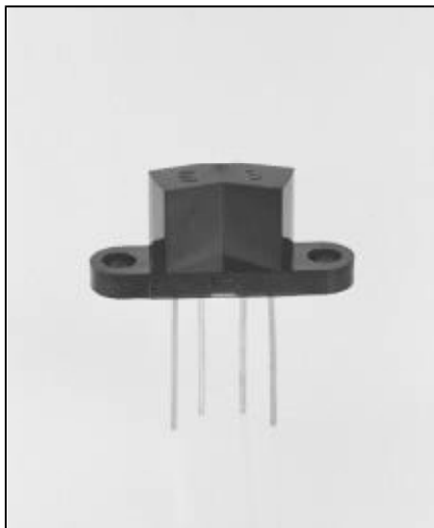


# Reflective Object Sensor Type OPB750T



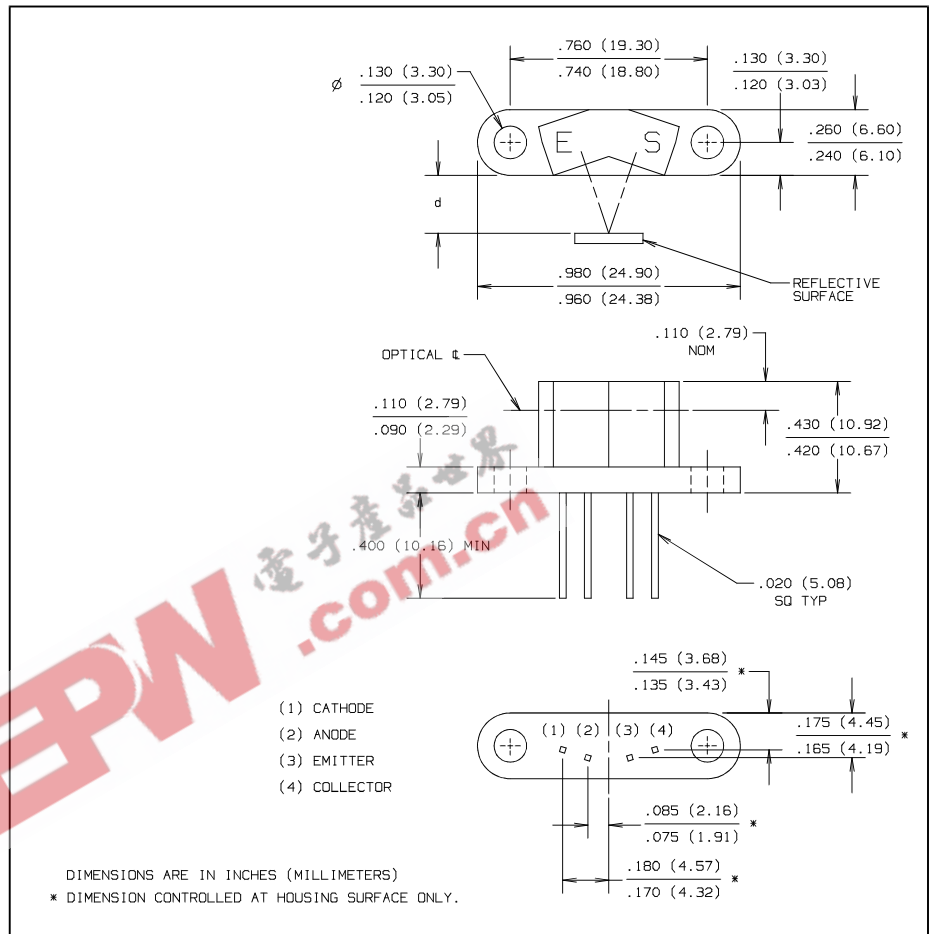
## Features

- High contrast ratio, 1000 to 1 minimum
- Printed circuit board mount
- Low cost plastic housing

## Description

The OPB750T 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 OPB750N.

Available with 12", 26 AWG wire leads as OPB750/OPB755 series. Photologic<sup>®</sup> output sensors available in OPB760/OPB770 series.



## Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Storage and Operating Temperature Range	.....	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	.....	$240^\circ\text{C}$ <sup>(2)</sup>
<b>Input Diode</b>		
Forward DC Current	.....	50 mA
Peak Forward Current (1 $\mu\text{s}$ pulse width, 300 pps)	.....	3.0 A
Reverse DC Voltage	.....	2.0 V
Power Dissipation	.....	100 mW <sup>(1)</sup>
<b>Output Phototransistor</b>		
Collector-Emitter Voltage	.....	30 V
Collector DC Current	.....	30 mA
Power Dissipation	.....	100 mW <sup>(1)</sup>

## Notes:

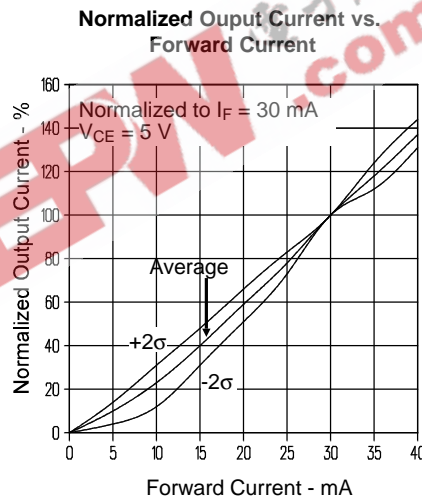
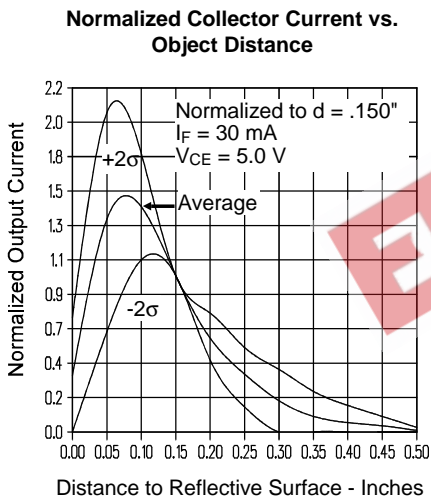
- (1) Derate Linearly 1.67 mW/ $^\circ\text{C}$  above  $25^\circ\text{C}$ .
- (2) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- (3) All parameters tested using pulse technique.
- (4) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (5) 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.
- (6)  $I_{C(OFF)}$  is the photocurrent measured with current to the input diode and a 5% reflecting surface.

# Type OPB750T

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		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.08''^{(5)}$
		375		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.15''^{(5)}$
		250		$\mu\text{A}$	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.22''^{(5)}$
$I_{C(OFF)}$	Off-State Collector Current		250	nA	$I_F = 30\text{ mA}, V_{CE} = 5\text{ V}^{(6)}, d = 0.08'', 0.15'', 0.22''$

## Typical Performance Curves



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

Optek Technology, Inc. 1215 W. Crosby Road Carrollton, Texas 75006 (972) 323-2200 Fax (972) 323-2396