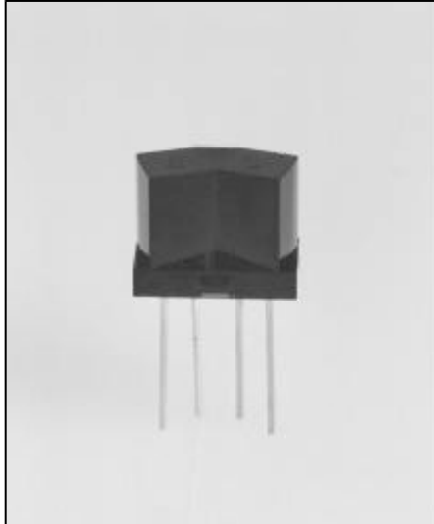


Reflective Object Sensor Type OPB750N



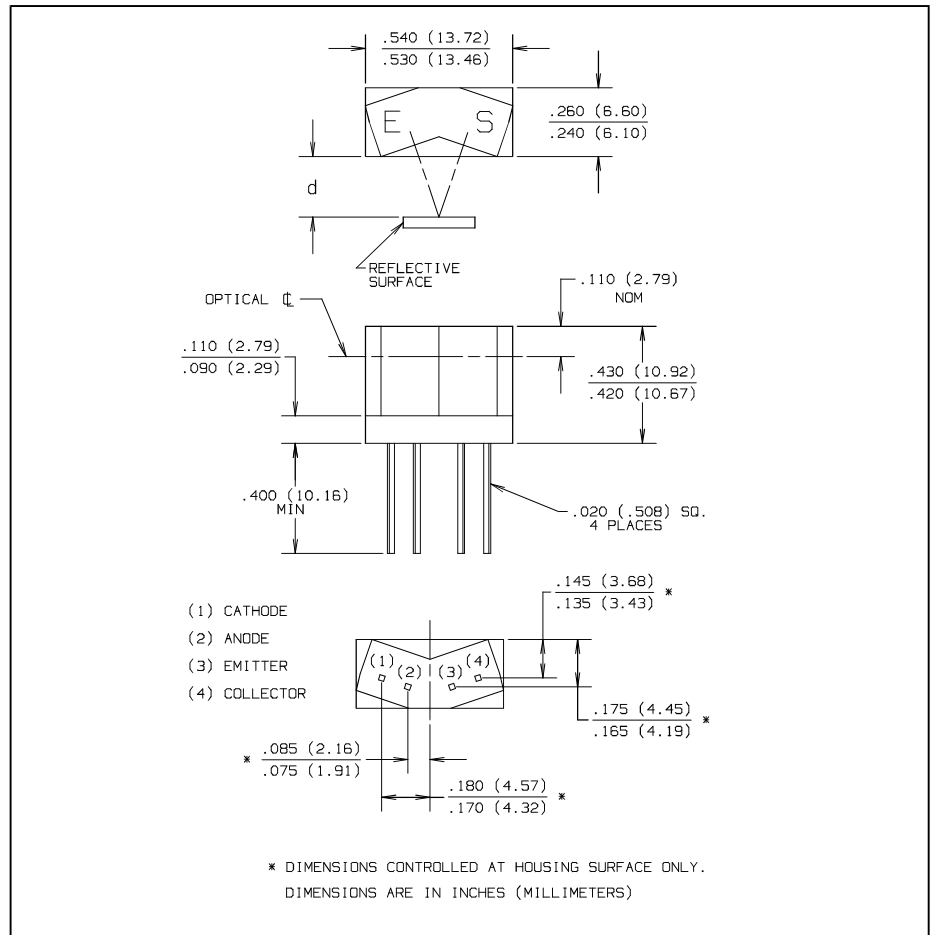
Features

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

Description

The OPB750N reflective assembly features a phototransistor output designed to decrease low-level light gain while not affecting the high-level light gain. Available with two mounting tabs as OPB750T.

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



Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Storage and Operating Temperature Range -40° C to +85° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] 240° C⁽²⁾

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

Output Phototransistor

Collector-Emitter Voltage 30 V
Collector DC Current 30 mA
Power Dissipation 100 mW

Notes:

- (1) Derate Linearly 1.67 mW/° C above 25° 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 OPB750N

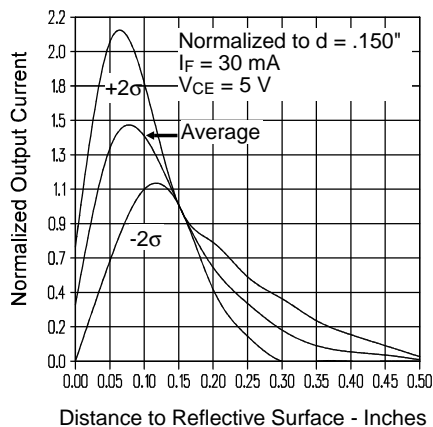
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
Input Diode					
V_F	Forward Voltage		1.80	V	$I_F = 40\text{ mA}$
I_R	Reverse Current		100	μA	$V_R = 2.0\text{ V}$
Output Phototransistor					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 100\text{ }\mu\text{A}$
I_{CEO}	Collector Dark Current		100	nA	$V_{CE} = 10\text{ V}, I_F = 0, H = 0$
Coupled					
$V_{CE(SAT)}$	Saturation Voltage		0.40	V	$I_C = 150\text{ }\mu\text{A}, I_F = 30\text{ mA}, d = 0.22''$
$I_{C(ON)}$	On-State Collector Current	500		μA	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.08''^{(5)}$
		375		μA	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.15''^{(5)}$
		250		μA	$V_{CE} = 5\text{ V}, I_F = 30\text{ mA}, d = 0.22''^{(5)}$
$I_{C(OFF)}$	Off-State Collector Current		250	nA	$I_F = 30\text{ mA}, V_{CE} = 5\text{ V}^{(6)}, d = 0.08'', 0.15'', 0.22''$

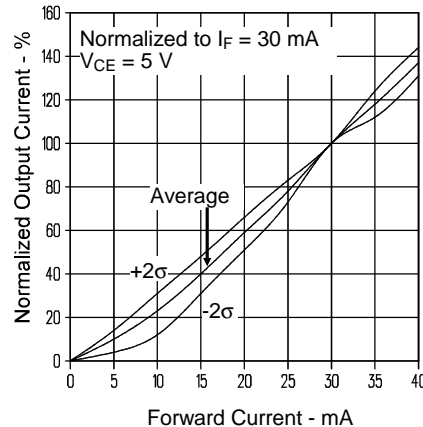
REFLECTIVE
OBJECT
SENSOR

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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