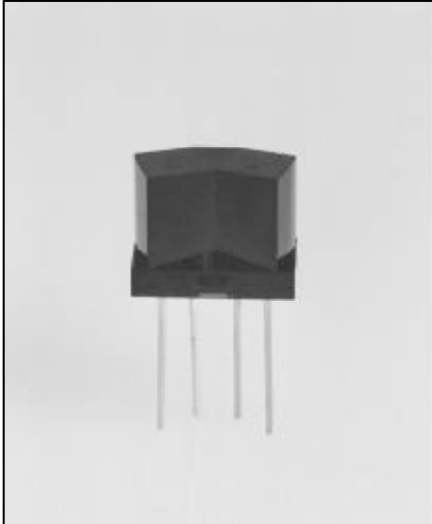


Reflective Object Sensor Type OPB750N



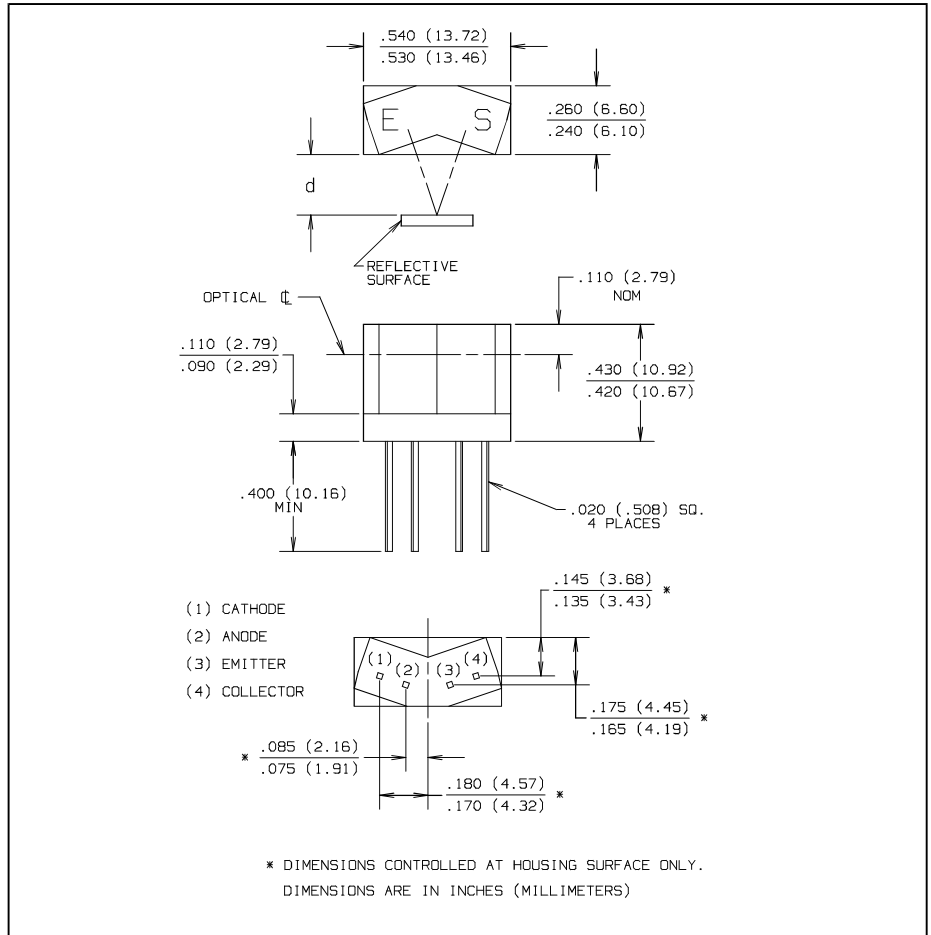
Features

- 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.



RoHS

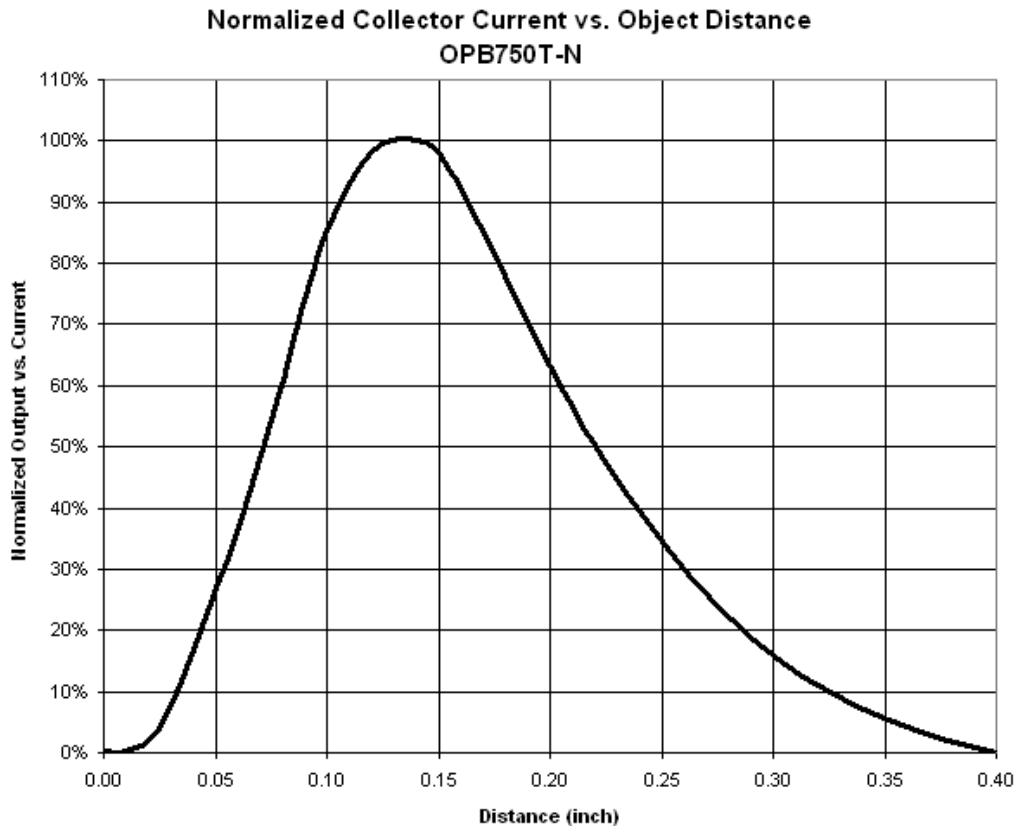
Type OPB750N

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 | $I_C = 100\ \mu\text{A}$ |
| 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 | $I_C = 150\ \mu\text{A}, I_F = 30\text{ mA}, d = 0.22''$ |
| $I_{C(ON)}$ | 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



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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