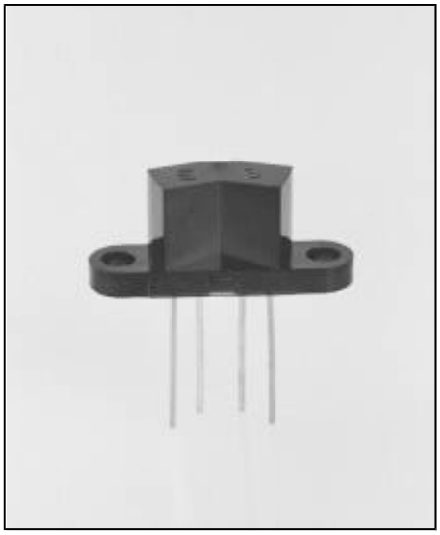
Reflective Object Sensor
Type OPB750T



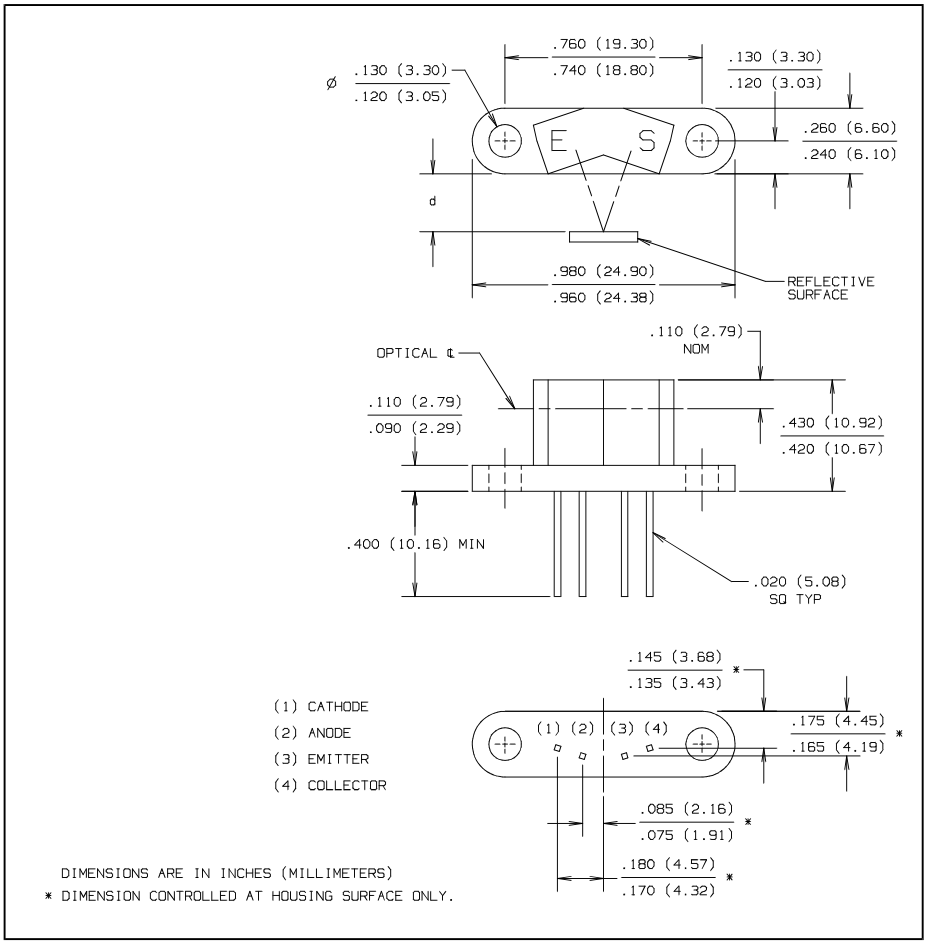
Features

- 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® 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 (1µs pulse width, 300 pps) . . . . . 3.0 A
Reverse DC Voltage . . . . . 2.0 V
Power Dissipation . . . . . 100 mW(1)

Output Phototransistor

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

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.

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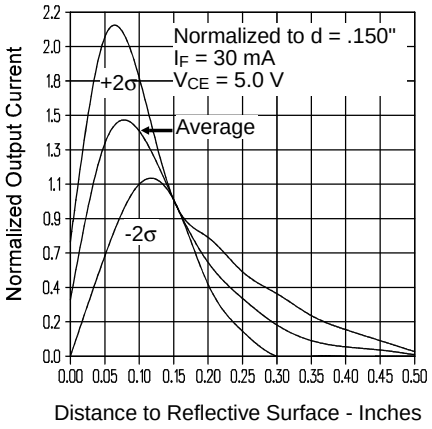
Electrical Characteristics (T_A = 25° C unless otherwise noted)

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

Typical Performance Curves

Normalized Collector Current vs. Object Distance



Normalized Ouput Current vs. Forward Current