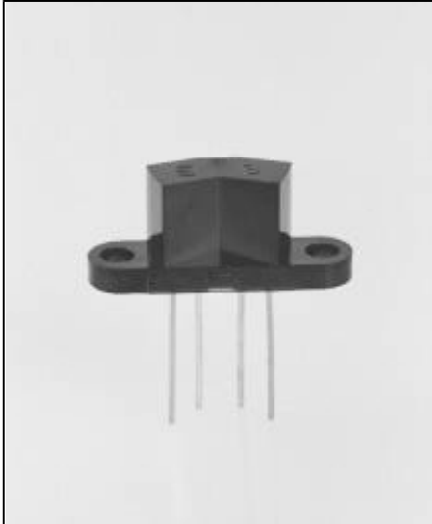


Reflective Object Sensor Type OPB750T



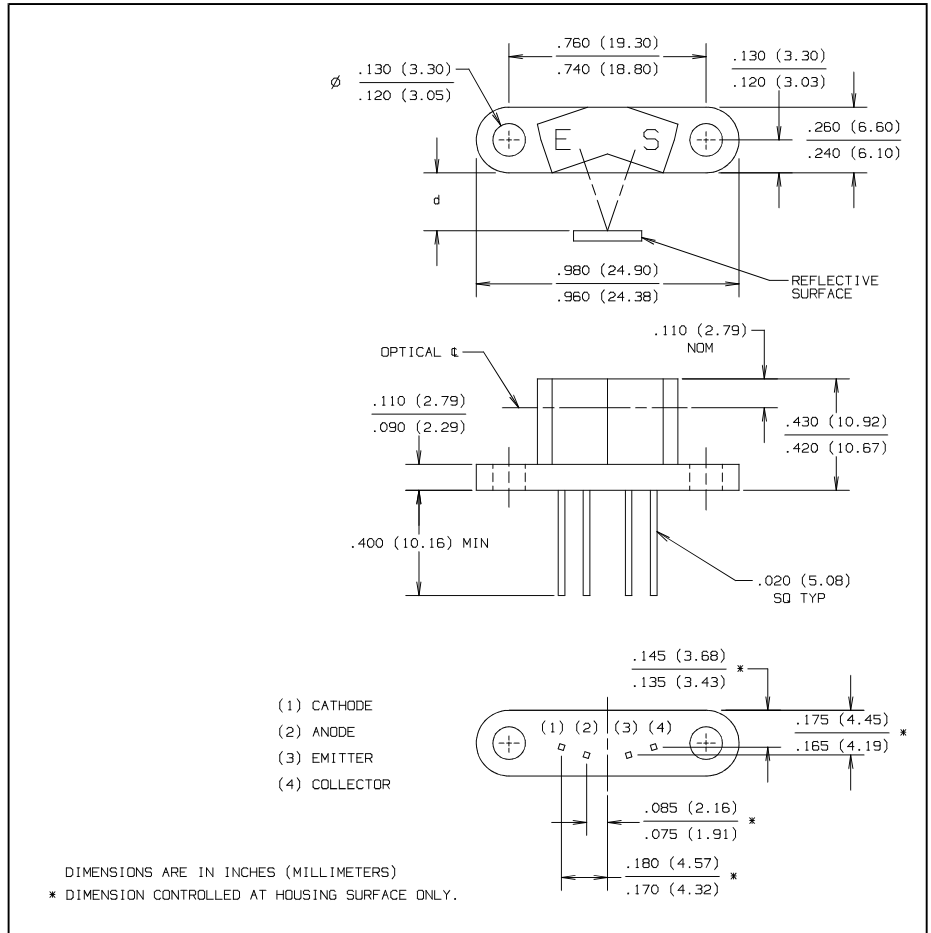
Features

- 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.

Type OPB750T

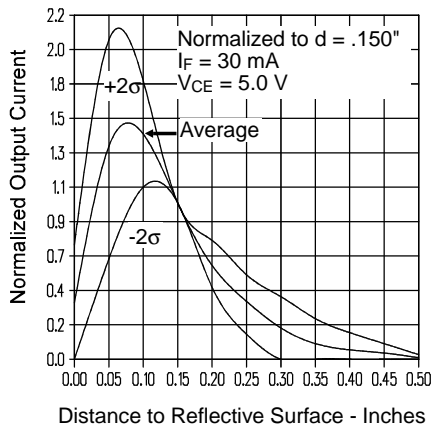
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

Normalized Collector Current vs. Object Distance



Normalized Output Current vs. Forward Current

