

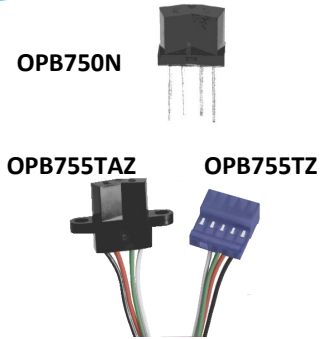


**THE DATASHEET OF  
OPB755TZ**



# Reflective Object Sensor

OPB750N, OPB750T  
 OPB755TZ, OPB755TAZ  
 Obsolete (OPB755NZ)



## Features:

- High contrast ratio (1,000 :1 minimum)
- Low cost plastic housing
- PCBoard mount (OPB750N, OPB750T)
- 12" (305 mm) 26 AWG wires (OPB755TZ)
- Available with no-mounting tabs "N" package
- Available with two mounting tabs "T" package

## Description:

Each sensor in the **OPB750** and **OPB755** series has a reflective assembly that features a Light Emitting Diode (LED) and phototransistor output designed to decrease low-level light, while not affecting the high-level light gain.

The **OPB750N** and **OPB750T** devices are designed for PCBoard mounting with 0.40" (10 mm) length leads. **OPB755TZ** and **OPB755TAZ** assemblies are designed for remote mounting. The **OPB755TZ** has 12" (305 mm) UL rated wire, 26 AWG wire leads that terminate into an AMP # 3-640442-5 connector. The **OPB755TAZ** has 24" (610 mm) UL rated wire, 26 AWG leads. The **OPB750T**, **OPB755TZ** and **OPB755TAZ** have two mounting tabs while the **OPB750N** has no mounting tabs.

Photologic® output versions are available with the **OPB760** and **OPB770** series.

Custom electrical, wire and cabling and connectors are available. Contact your local representative or OPTEK for more information.

## Applications:

- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Machine safety
- End of travel sensor
- Door sensor

Ordering Information					
Part Number	LED Peak Wavelength	Sensor	Reflection Distance Inch	Lead Length	Tabs
OPB750N	890 nm	Transistor & Rbe	0.080" (2.03 mm)	0.40"	No tabs
			0.150" (3.81 mm)		
			0.220" (5.59 mm)		
OPB750T			0.080" (2.03 mm)		2 tabs
			0.150" (3.81 mm)		
			0.220" (5.59 mm)		
OPB755NZ Obsolete	890 nm	Transistor & Rbe	0.080" (2.03 mm)	12" / 26 AWG Wire with connector	No tabs
			0.150" (3.81 mm)		
			0.220" (5.59 mm)		
OPB755TZ			0.080" (2.03 mm)	2 tabs	
			0.150" (3.81 mm)		
			0.220" (5.59 mm)		
OPB755TAZ			0.080" (2.03 mm)	24" / 26 AWG Wire NO connector	
			0.150" (3.81 mm)		
			0.220" (5.59 mm)		



RoHS

### General Note

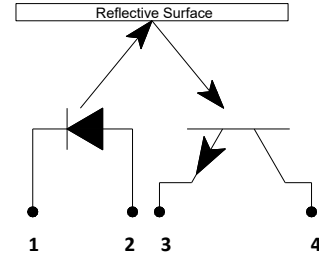
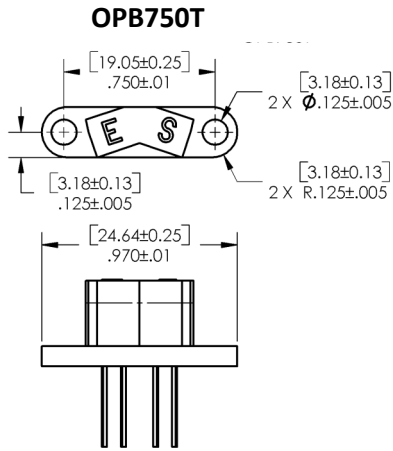
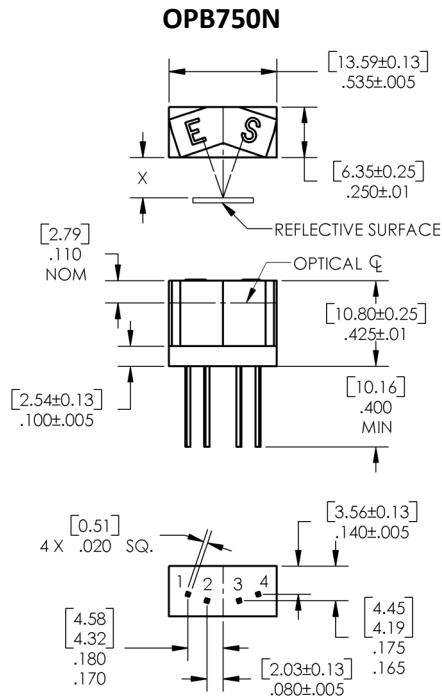
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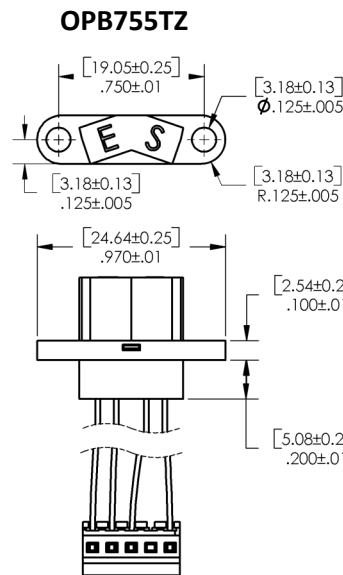
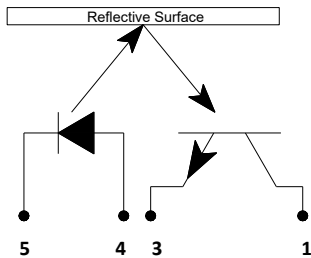
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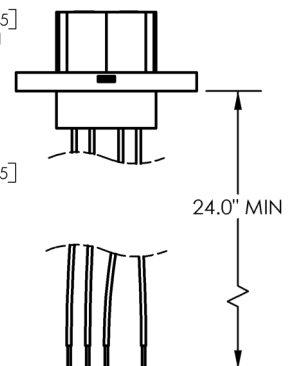


OPB750	
Pin #	Description
1	Cathode
2	Anode
4	Collector
3	Emitter

DIMENSIONS ARE IN: [MILLIMETERS]  
INCHES



**OPB755TAZ**



OPB755	
Color	Description
Black-5	Cathode
Red-4	Anode
White-1	Collector
Green-3	Emitter

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## Absolute Maximum Ratings (T<sub>A</sub> = 25° C unless otherwise noted)

Operating and Storage Temperature Range OPB750N, OPB750T OPB755TZ, OPB755TAZ	-40° C to + 85° C -40° C to + 80° C
Lead Soldering Temperature <sup>(1)</sup>	260° C

## Input Diode

Forward DC Current	50 mA
Peak Forward Current (1 μ pulse width, 300 pps)	1 A
Reverse DC Voltage	2 V
Power Dissipation	100 mW

## Output Phototransistor

Collector-Emitter Voltage	24 V
Collector DC Current	30 V
Power Dissipation <sup>(3)</sup>	100 mW

## Electrical Characteristics (T<sub>A</sub> = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
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### Input Diode (See OP240 for additional information)

V <sub>F</sub>	Forward Voltage	-	-	1.8	V	I <sub>F</sub> = 40 mA
I <sub>R</sub>	Reverse Current	-	-	100	μA	V <sub>R</sub> = 2 V

### Output Phototransistor (see OP550 for additional information)

V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	24	-	-	V	I <sub>C</sub> = 100 μA
I <sub>CEO</sub>	Collector Dark Current	-	-	100	nA	V <sub>CE</sub> = 10 V, I <sub>F</sub> = 0, H = 0

## Coupled

V <sub>CE(SAT)</sub>	Saturation Voltage	-	-	.40	V	I <sub>C</sub> = 150 μA, I <sub>F</sub> = 30 mA, d = 0.22"
I <sub>C(OFF)</sub>	Off-State Collector Current <sup>(5)</sup>	-	-	250	nA	I <sub>F</sub> = 30 mA, V <sub>CE</sub> = 5 V d = 0.08", 0.15", 0.22"
I <sub>C(ON)</sub>	On-State Collector Current <sup>(4)</sup>	500 375 250	- - -	- - -	μA	I <sub>F</sub> = 30 mA, V <sub>CE</sub> = 5 V, d = 0.08" I <sub>F</sub> = 30 mA, V <sub>CE</sub> = 5 V, d = 0.15" I <sub>F</sub> = 30 mA, V <sub>CE</sub> = 5 V, d = 0.22"

### Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 1.67 mW/° C above 25° C.
- (3) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (4) Photocurrent is measured using an Eastman Kodak neutral white test card having 90% diffuse reflectance as a reflecting surface. Reference: Eastman Kodak, Catalog #E 152 7795.
- (5) I<sub>C(OFF)</sub> is the photocurrent measured with current to the input diode and a 5% reflecting surface.
- (6) All parameters tested using pulse techniques.

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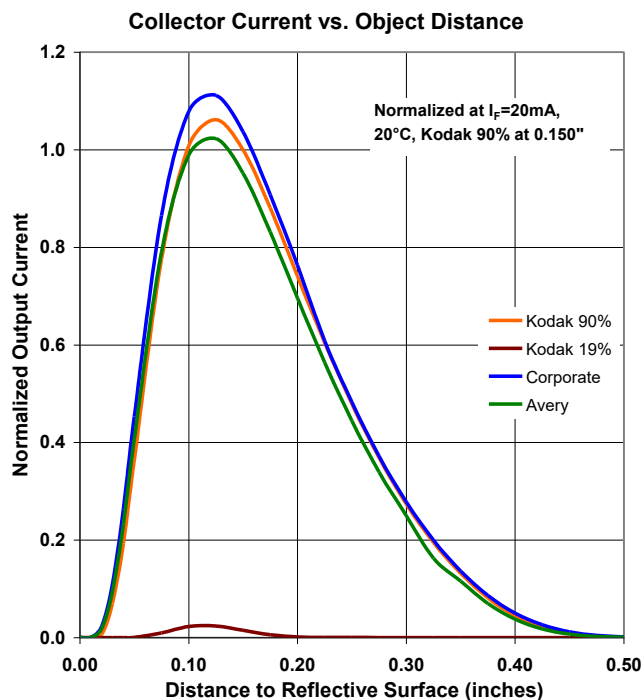
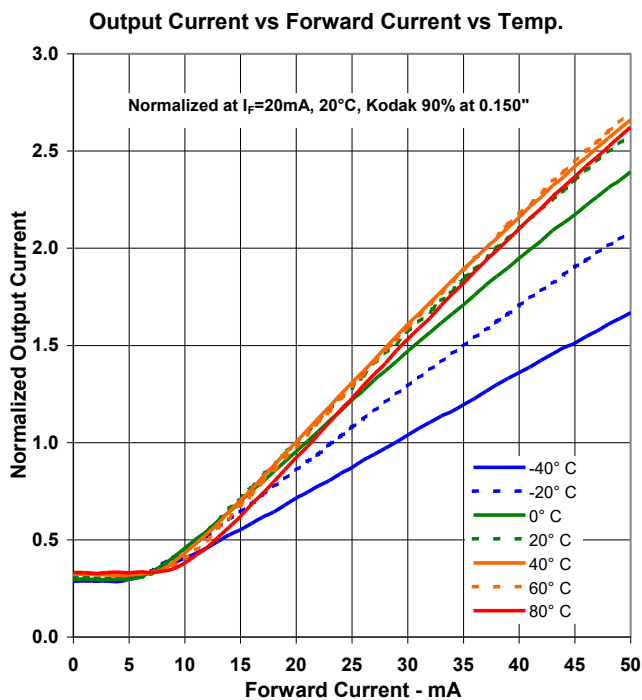
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## Performance



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