

Reflective Object Sensor

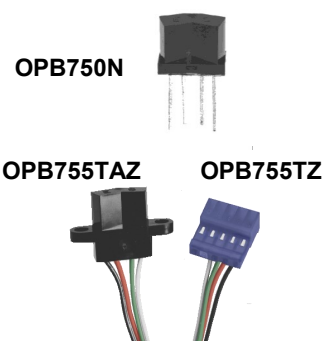
OPB750N, OPB750T

OPB755NZ, OPB755TZ, OPB755TAZ



Features:

- High contrast ratio (1,000 :1 minimum)
- Low cost plastic housing
- PCBoard mount (OPB750N, OPB750T)
- 12" (305 mm) 26 AWG wires (OPB755NZ, 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 have are designed for PCBoard mounting with 0.40" (10 mm) length leads. **OPB755NZ**, **OPB755TZ** and **OPB755TAZ** assemblies are designed for remote mounting. The **OPB755NZ** and **OPB755TZ** have 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** and **OPB755NZ** have 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	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)		



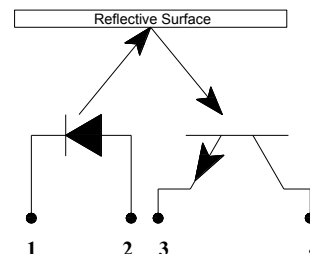
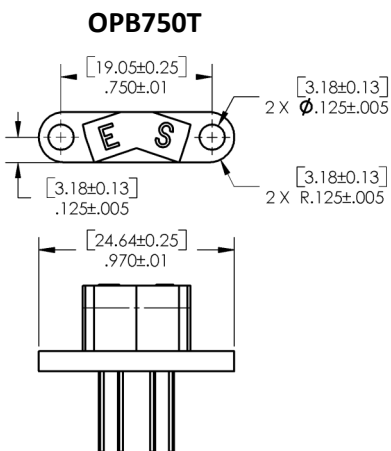
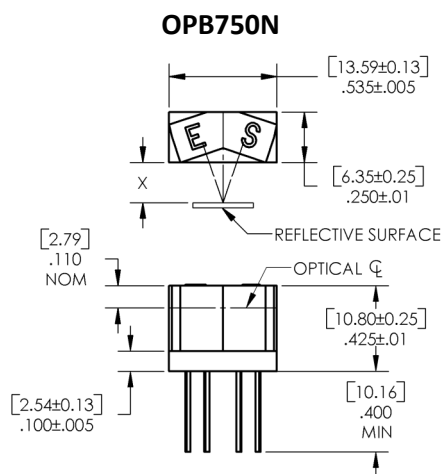
General Note
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OPTEK Technology, Inc.
1645 Wallace Drive, Carrollton, TX 75006Ph: +1 972 323 2200
www.optekinc.com | www.ttelectronics.com

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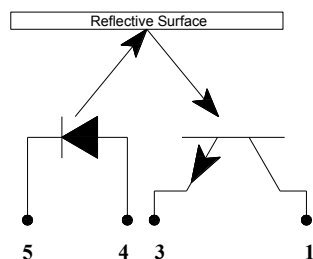
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OPB750	
Pin #	Description
1	Cathode
2	Anode
4	Collector
3	Emitter

DIMENSIONS ARE IN: [MILLIMETERS]
INCHES

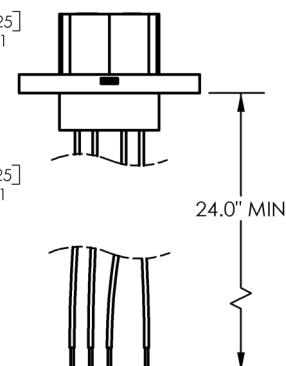
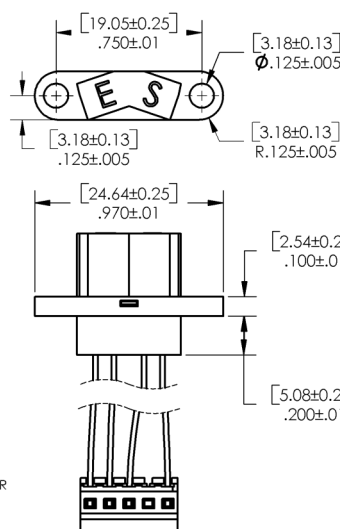
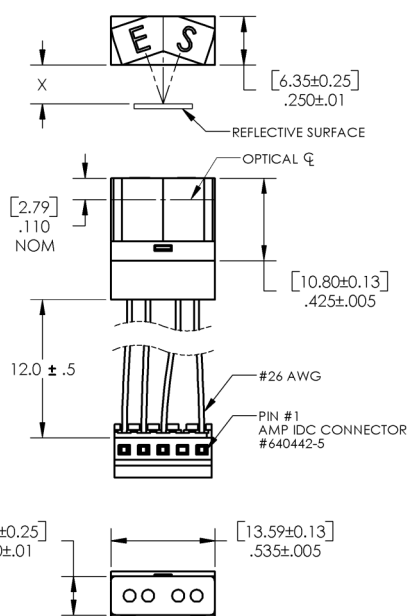


OPB755NZ

OPB755TZ

OPB755TAZ

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



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Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Operating and Storage Temperature Range OPB750N, OPB750T OPB755NZ, OPB755TZ, OPB755TAZ	-40° C to +85° C -40° C to +80° C
Lead Soldering Temperature ⁽¹⁾	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 ⁽³⁾	100 mW

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode (See OP240 for additional information)						
V_F	Forward Voltage	-	-	1.8	V	$I_F = 40\text{ mA}$
I_R	Reverse Current	-	-	100	μA	$V_R = 2\text{ V}$
Output Phototransistor (see OP550 for additional information)						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	24	-	-	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	-	-	.40	V	$I_C = 150\text{ }\mu\text{A}, I_F = 30\text{ mA}, d = 0.22''$
$I_{C(OFF)}$	Off-State Collector Current ⁽⁵⁾	-	-	250	nA	$I_F = 30\text{ mA}, V_{CE} = 5\text{ V}$ $d = 0.08'', 0.15'', 0.22''$
$I_{C(ON)}$	On-State Collector Current ⁽⁴⁾	500 375 250	- - -	- - -	μA	$I_F = 30\text{ mA}, V_{CE} = 5\text{ V}, d = 0.08''$ $I_F = 30\text{ mA}, V_{CE} = 5\text{ V}, d = 0.15''$ $I_F = 30\text{ mA}, V_{CE} = 5\text{ V}, d = 0.22''$

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) $I_{C(OFF)}$ 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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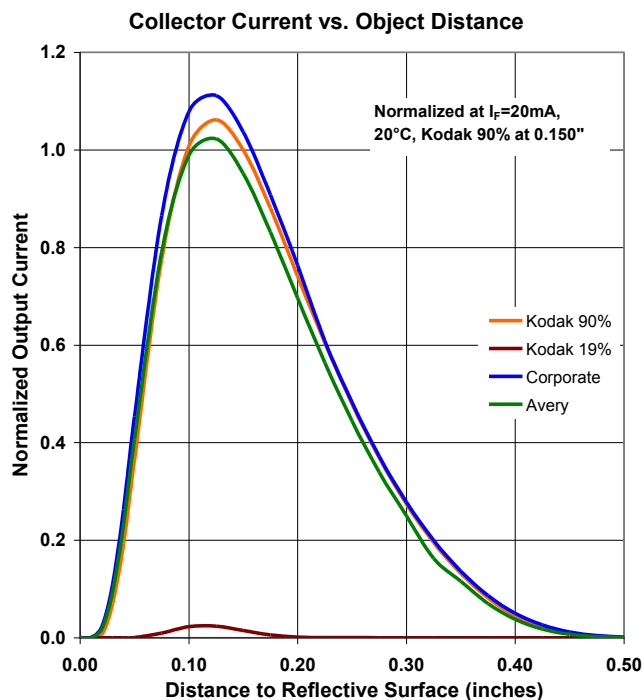
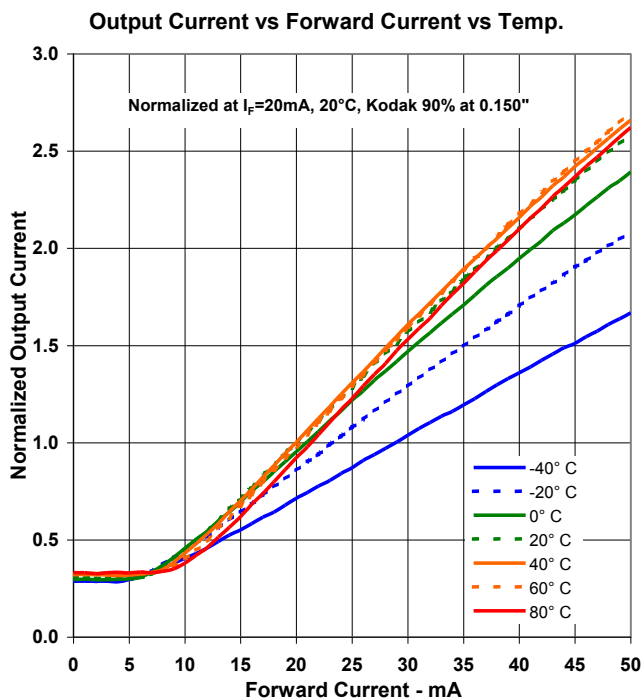
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Performance



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