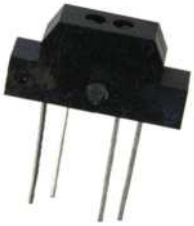
Reflective Object Sensor

OPB702, OPB702D



Features:

- Focused for maximum sensitivity
- Choice of phototransistor or photodarlington
- Low cost plastic housing

Description:

The **OPB702** series consists of an infrared Light Emitting Diode (LED) and the choice of a NPN silicon phototransistor **(OPB702)** or a photodarlington **(OPB702D)**.

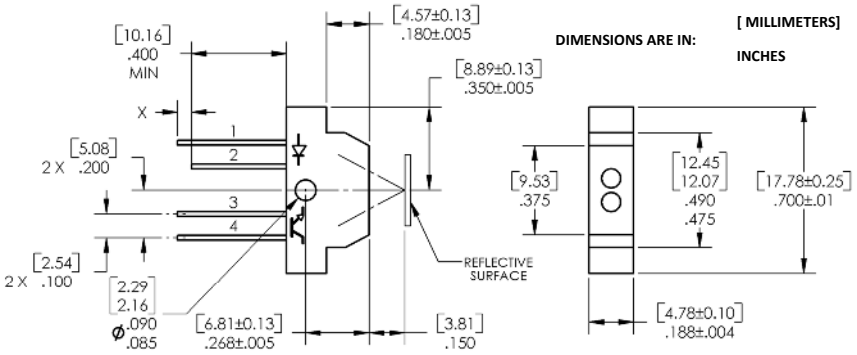
On each sensor, the LED and the phototransistor or photodarlington are mounted side-by-side on converging optical axes in a black plastic housing. The **OPB702** uses type OP505 sensor, the **OPB702D** uses an OP535 sensor.

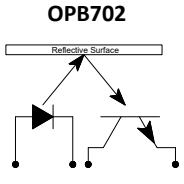
Custom electrical, wire, cabling and connectors are available. Contact your local representative or OPTEK for more information.

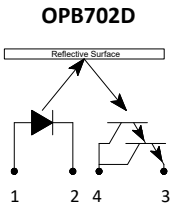
Applications:

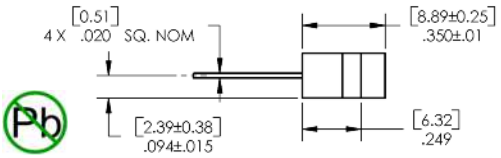
- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Machine safety
- End of travel sensor
- Door sensor

Ordering Information				
Part Number	**LED Peak Wavelength**	**Sensor**	**Reflection Distance Inch (mm)**	**Lead Length / Spacing**
OPB702	935 nm	Transistor	0.150" (3.81mm)	0.400" / 0.100"
OPB702D	890 nm	Darlington		









Pin #	LED	Pin #	LED
1	Anode	3	Emitter
2	Cathode	4	Collector

RoHS

General Note
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Electrical Specifications

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Storage & Operating Temperature Range	-40° C to +85° C
Lead Soldering Temperature [1/16 inch (1.6mm) from the case for 5 sec. with soldering iron][(2)]	260° C
Input Diode	
Peak Forward Current	50 mA
Reverse Voltage	2 V
Power Dissipation][(1)]	100 mW
Output Photosensor	
Collector-Emitter Voltage OPB702 OPB702D	 30 V 15 V
Emitter-Collector Voltage	5 V
Power Dissipation][(1)]	100 mW

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

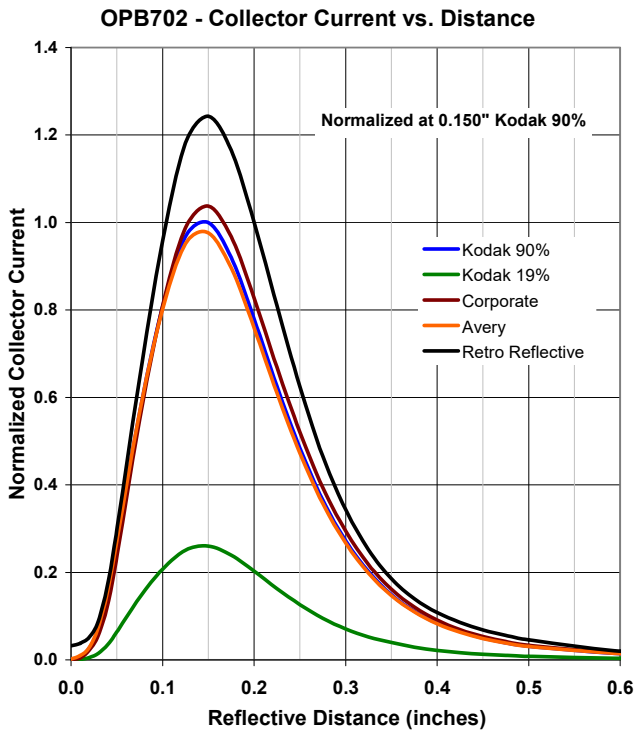
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode (see OP265 or OP165 for additional information)						
V_F	Forward Voltage (Infrared LED)	-	-	1.7	V	I_F = 20 mA
I_R	Reverse Current	-	-	100	µA	V_R = 2 V
Output Phototransistor (see OP505 for Phototransistor, OP705 for Rbe-Phototransistor, OP535 for Photodarlington)						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage OPB702 OPB702D	 30 15	 - -	 - -	V	 I_C = 100 µA, I_F = 0, E_e = 0 I_C = 1 mA, I_F = 0, E_e = 0
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage OPB702 OPB702D	 5 5	 - -	 - -	 V V	 I_E = 100 µA, I_F = 0, E_E = 0 I_E = 100 µA, I_F = 0, E_E = 0
I_{CEO}	Collector Dark Current OPB702 OPB702D	 - -	 - -	 100 250	 nA nA	 V_{CE} = 10 V, I_F = 0, E_E = 0 V_{CE} = 10 V, I_F = 0, E_E = 0
Combined						
$V_{CE(SAT)}$[(3)(4)]	Collector-Emitter Saturation Voltage OPB702 OPB702D	 - -	 - -	 0.4 1.1	 V V	 I_F = 40 mA, I_C = 250 µA, d = .15" (3.81 mm) I_F = 40 mA, I_C = 400 µA, d = .15" (3.81 mm)
$I_{C(ON)}$[(3)(4)]	On-State Collector Current OPB702 OPB702D	 0.1 3.2	 - -	 1.0 65.0	 mA	 I_F = 40 mA, V_{CE} = 5 V, d = .15" (3.81 mm)

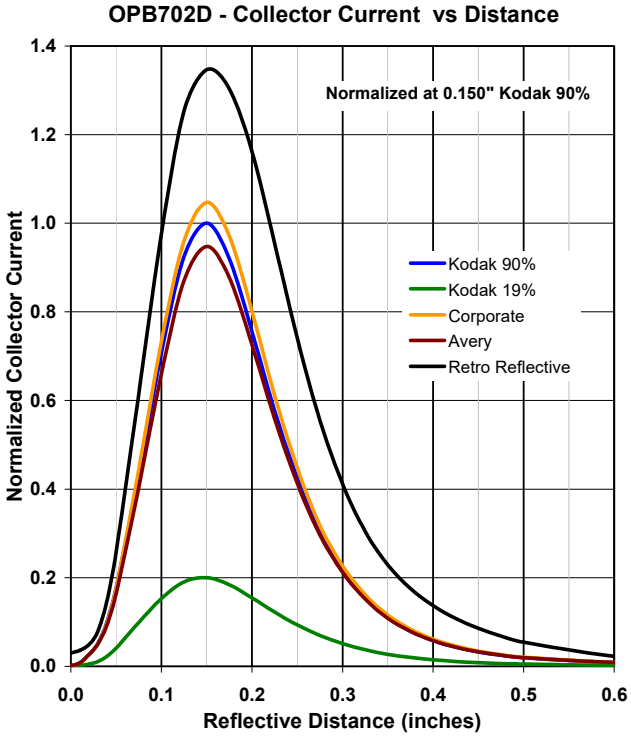
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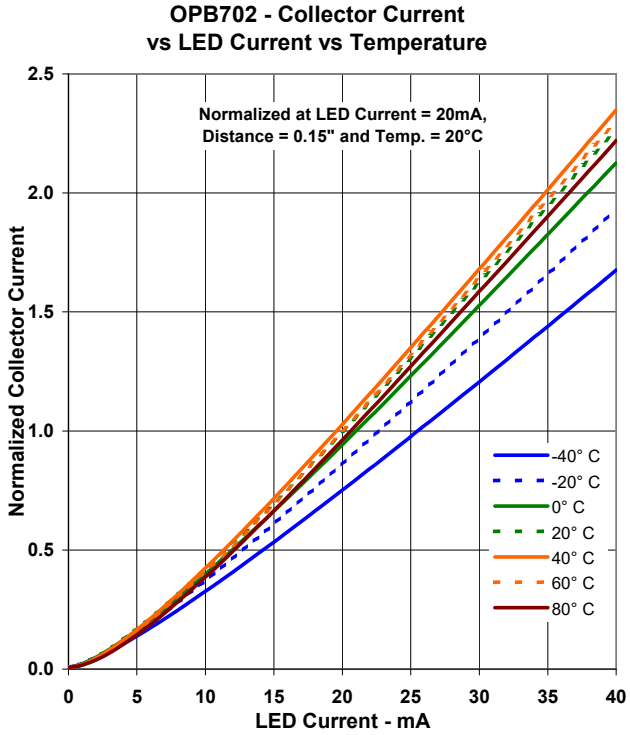
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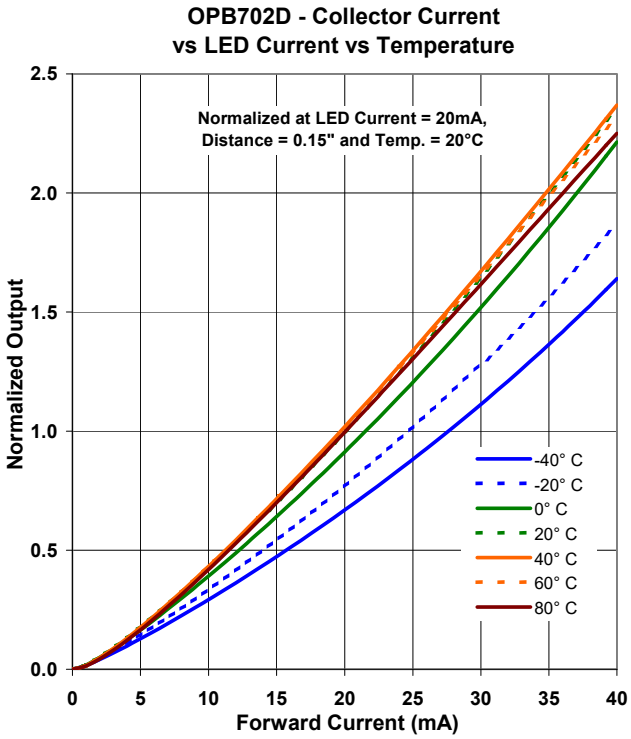
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Performance









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