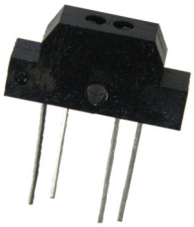
Reflective Object Sensor

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)**.

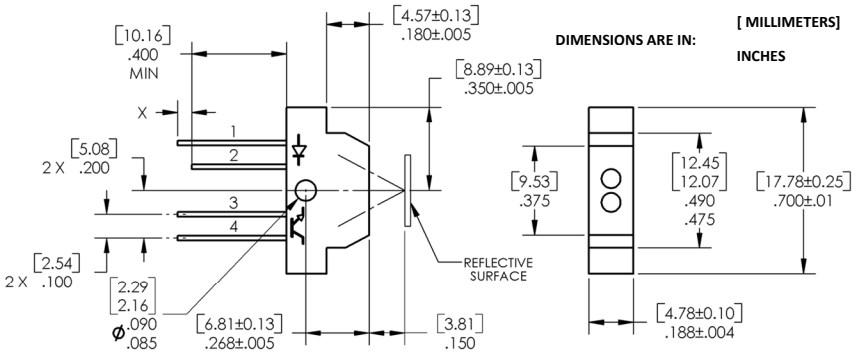
On each sensor, the LED and the phototransistor or photodarlington are mounted side-by-side on converging optical axes in a black plastic housing. The **OPB702** uses type OP505 sensor, the **OPB702D** uses an OP535 sensor.

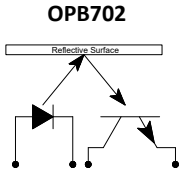
Custom electrical, wire, cabling and connectors are available. Contact your local representative or OPTEK for more information.

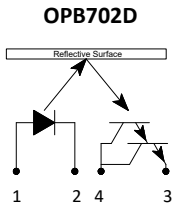
Applications:

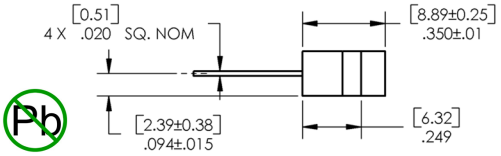
- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Machine safety
- End of travel sensor
- Door sensor

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
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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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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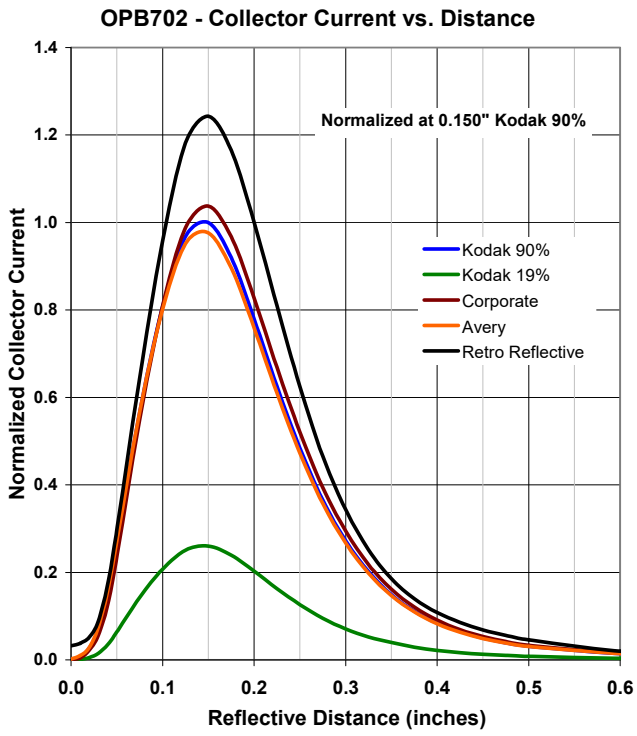
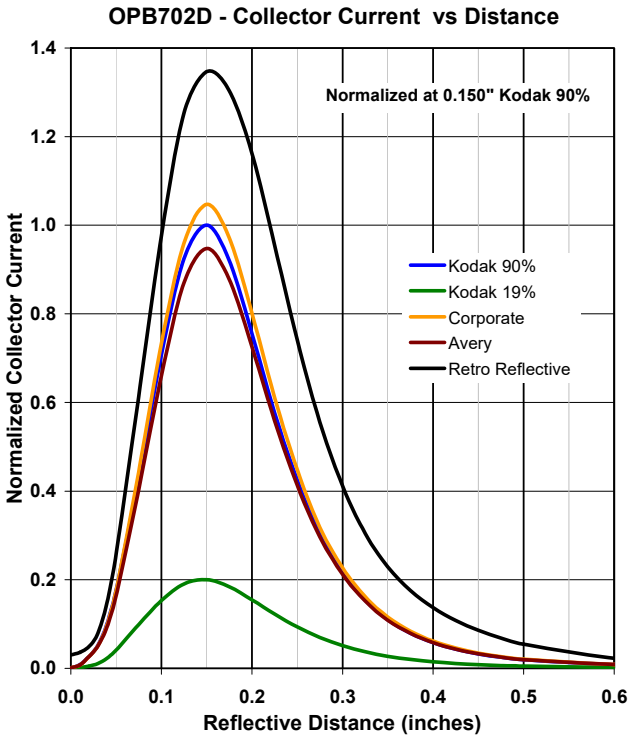
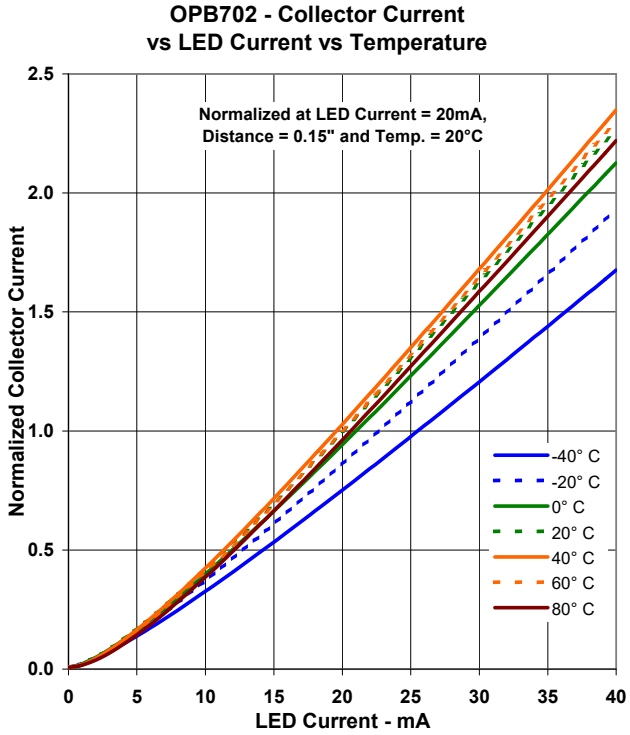
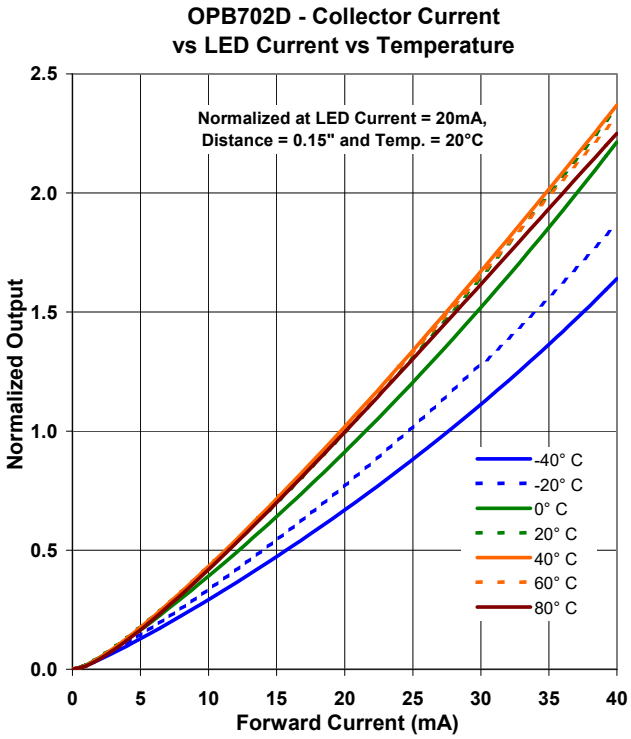
Performance









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