OPB856Z



Features:

- Designed for Industrial applications
- Threaded housing (M12 X 1 TH), Nut included
- Molded connectors mates with Molex 03-06-2023 plug.
- Emitter (White) and Senor (Black) housing color coded



Description:

The **OPB856** emitter and sensor pair consists of an LED (935 nm) and a Phototransistor designed to operate efficiently with each other. They are mounted in a threaded (M12x1TH) color-coded housing. The LED (white) and the Phototransistor (black) are designed to easily panel mount in through a 0.4724" (12.0 mm) hole. A 12 mm nut is included for each housing. Both components is designed to electrically mate with a Molex (03-06-2023) connector.

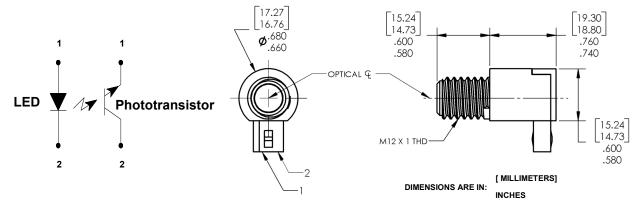
The OPB856 pair are designed to operate with separation distances between the LED and Phototransistor up to 12" (30.48 cm).

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

Applications:

- Non-contact interruptive object sensing
- Assembly line automation
- Machine automation
- Equipment security

Ordering Information						
Optical Pair Part Number	LED Peak Wavelength	Sensor Connector IV				
OPB856Z	935 nm	Transistor	Use Molex 03-06-2023			



Housing	LED - White	Sensor - Black		
Plug	MOLEX 03-06-2023	MOLEX 03-06-2023		
Pin for Plug	Male MOLEX 02-06-6122	Female MOLEX 02-06-7104		

White Housing		Black Housing		
Pin#	LED	Pin#	Phototransistor	
1	Anode	1	Emitter	
2	Cathode	2	Collector	



OPB856Z



Electrical Specifications

Absolute	e Maximum Ratings (T _A = 25° C unless of	otherwi	se note	d)			
Storage & Operating Temperature Range					-40° C to +85° C		
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]					260° C		
Input Diod	e (See OP165 for additional information)						
Conti	nuous Forward DC Current						40 mA
Reve	rse Voltage						2 V
Powe	er Dissipation ⁽¹⁾						100 mW
Output Ph	ototransistor (See OP505 for additional infor	mation)					
Colle	ctor-Emitter Voltage						30 V
Emitter-Collector Voltage					5 V		
Powe	er Dissipation ⁽¹⁾						100 mW
Electrica	I Characteristics (T _A = 25° C unless othe	rwise n	oted)				
SYMBOL	PARAMETER	MIN	ТҮР	MAX	UNITS	TEST CONDITIONS	
Input Diod	e (See OP165 for additional information)						
V _F	Forward Voltage	_	_	1.7	V	I _F = 20 mA	
I _R	Reverse Current	-	-	100	μΑ	V _R = 2 V	
Output Pl	hototransistor (See OP505 for additional	inform	ation)				
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	30	-	-	V	Ι _C = 100 μΑ	
V _{(BR)ECO}	Emitter-Collector Breakdown Voltage	5	-	-	V	Ι _Ε = 100 μΑ	
I _{CEO}	Collector Dark Current	-	-	100	nA	$V_{CE} = 10 \text{ V, } I_F = 0, E_E = 0$	
Combined	1	1	1	1		1	
I _{C(ON)}	On-State Collector Current ⁽³⁾	1.8	-	-	mA	V _{CE} = 5 V, I _F = 20 r	mA, d = 2" ⁽ (50.8 mm) ⁽²⁾

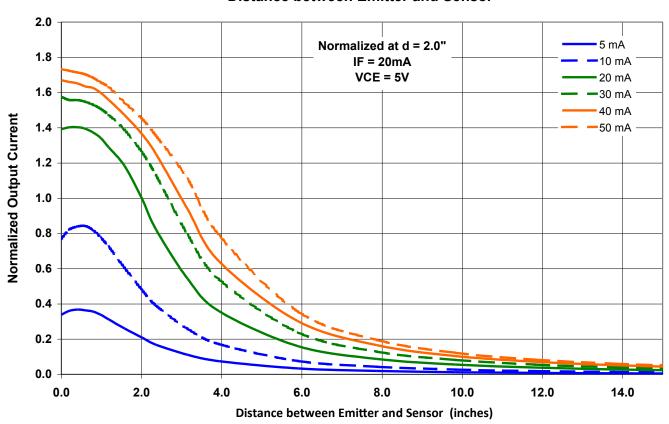
Notes:

- (1) Derate linearly 1.67 mW/°C above 25 ° C..
- (2) Distance between lenses along the optical axis is "d".
- (3) All parameters tested using pulse technique.

OPB856Z



Normalized Collector Current vs. Distance between Emitter and Sensor



Issue C 02/2018 Page 3

OPB856Z



Issue	Change Description	Approval	Date
Α	Initial Release		
A.1	Revised and put into new template. Required changes on all pages. Added lead soldering temp to page 2. Changed issue and date in footer. Added new Ordering Information box to page 1.	Bob Procsal	01/19/06
A.2	Removed "that" in first sentence. Corrected Reference Component information on Table page 2	Bob Procsal	12/21/07
В	Transferred to the new TT Electronics template	L. Timpa	9/23/16

Issue C 02/2018 Page 4