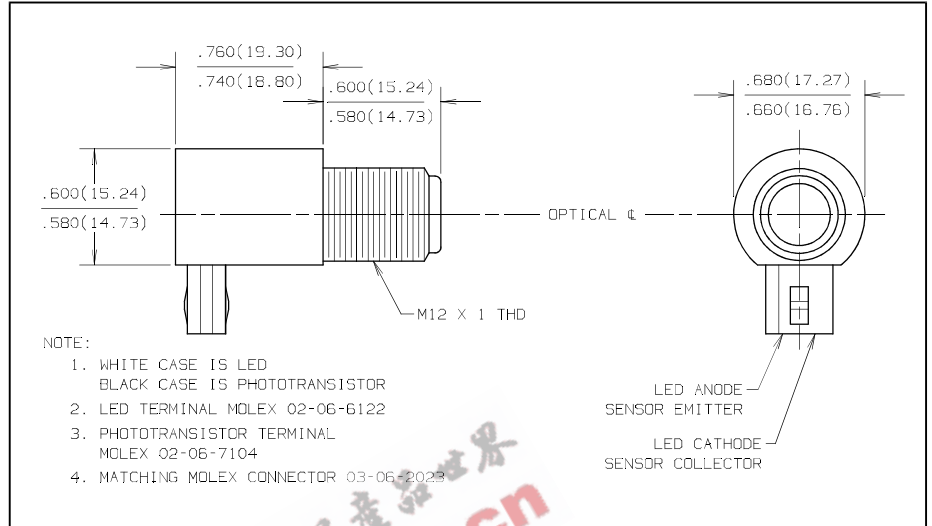


# Wide Gap Optical Sensor Type OPB856



## Features

- Industrial package
- Threaded housing
- Molded connectors

## Description

The OPB856 consists of an LED and a phototransistor each mounted in a threaded (M12x1TH) color coded housing. The LED is white, and the phototransistor is black. Both have a molded Molex connector for ease of installation. For cable and connector operations, contact the factory.

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

Storage and Operating Temperature Range .....  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$

### Input Diode

Continuous Forward Current ..... 40 mA  
Reverse Voltage ..... 2.0 V  
Power Dissipation ..... 100 mW<sup>(1)</sup>

### Output Phototransistor

Collector-Emitter Voltage ..... 30 V  
Emitter-Collector Voltage ..... 5.0 V  
Power Dissipation ..... 100 mW<sup>(1)</sup>

### Notes:

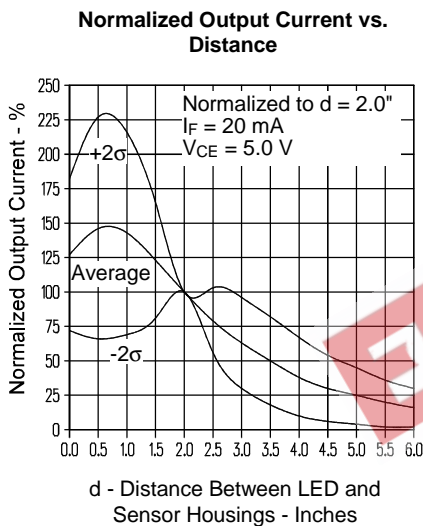
- (1) Derate Linearly 1.67 mW/ $^\circ\text{C}$  above  $25^\circ\text{C}$ .
- (2) d is the distance between lenses along the optical axis.
- (3) All parameters tested using pulse technique.

# Type OPB856

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
<b>Input Diode</b>					
$V_F$	Forward Voltage		1.7	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current		100	$\mu\text{A}$	$V_R = 2\text{ V}$
<b>Output Phototransistor</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 100\ \mu\text{A}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	$I_E = 100\ \mu\text{A}$
$I_{CEO}$	Collector Dark Current		100	nA	$V_{CE} = 10\text{ V}, I_F = 0, E_e = 0$
<b>Coupled</b>					
$I_{C(ON)}$	On-State Collector Current <sup>(3)</sup>	1.8		mA	$V_{CE} = 5\text{ V}, I_F = 20\text{ mA}, d = 2''^{(2)}$

## Typical Performance Curves



Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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