



# Wide Gap Optical Sensor

OPB856Z



## Electrical Specifications

Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
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 Diode (See OP165 for additional information)						
Continuous Forward DC Current						40 mA
Reverse Voltage						2 V
Power Dissipation <sup>(1)</sup>						100 mW
Output Phototransistor (See OP505 for additional information)						
Collector-Emitter Voltage						30 V
Emitter-Collector Voltage						5 V
Power Dissipation <sup>(1)</sup>						100 mW
Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode (See OP165 for additional information)						
$V_F$	Forward Voltage	-	-	1.7	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current	-	-	100	$\mu\text{A}$	$V_R = 2\text{ V}$
Output Phototransistor (See OP505 for additional information)						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30	-	-	V	$I_C = 100\ \mu\text{A}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5	-	-	V	$I_E = 100\ \mu\text{A}$
$I_{CEO}$	Collector Dark Current	-	-	100	nA	$V_{CE} = 10\text{ V}, I_F = 0, E_E = 0$
Combined						
$I_{C(ON)}$	On-State Collector Current <sup>(3)</sup>	1.8	-	-	mA	$V_{CE} = 5\text{ V}, I_F = 20\text{ mA}, d = 2'' (50.8\text{ mm})$ <sup>(2)</sup>

### Notes:

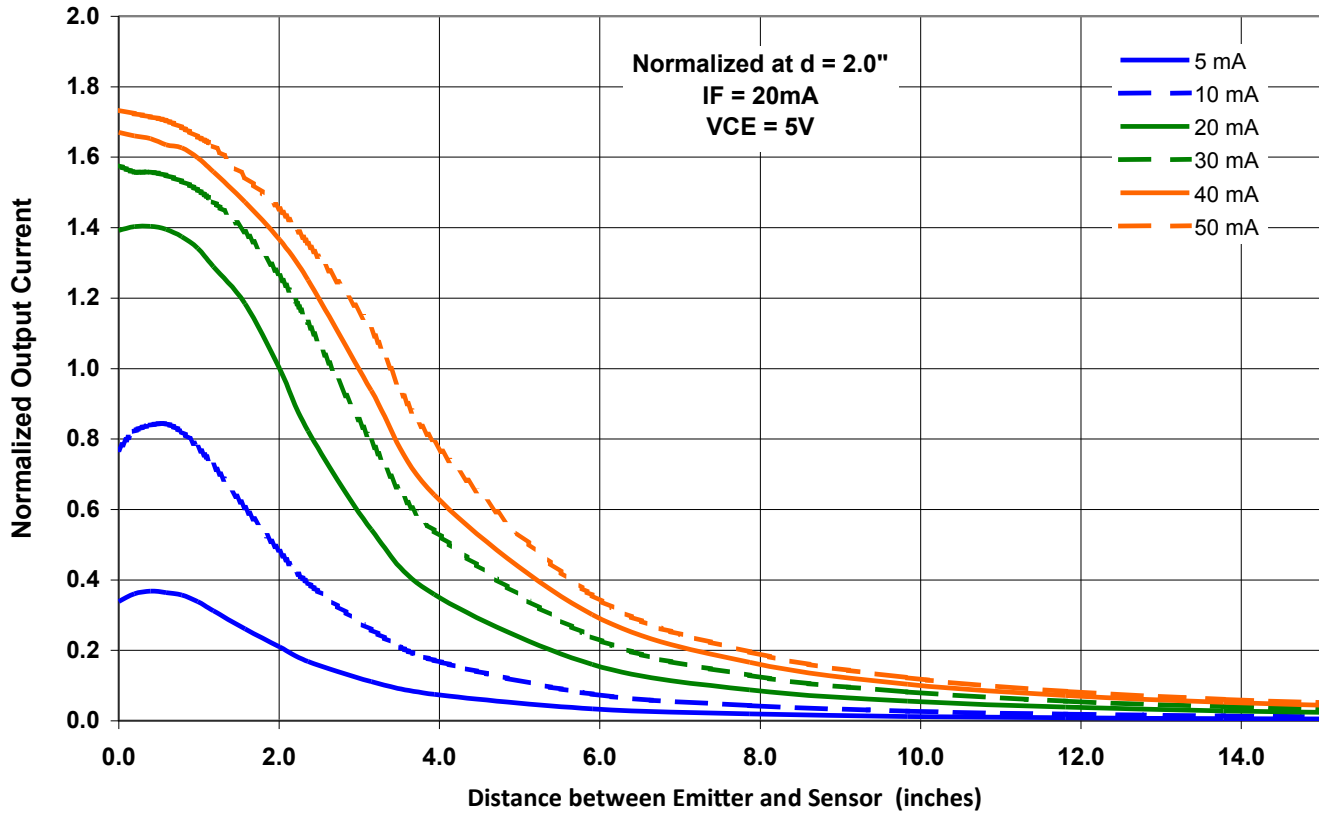
- (1) Derate linearly 1.67 mW/°C above 25 °C..
- (2) Distance between lenses along the optical axis is "d".
- (3) All parameters tested using pulse technique.

### 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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**Normalized Collector Current vs.  
Distance between Emitter and Sensor**



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