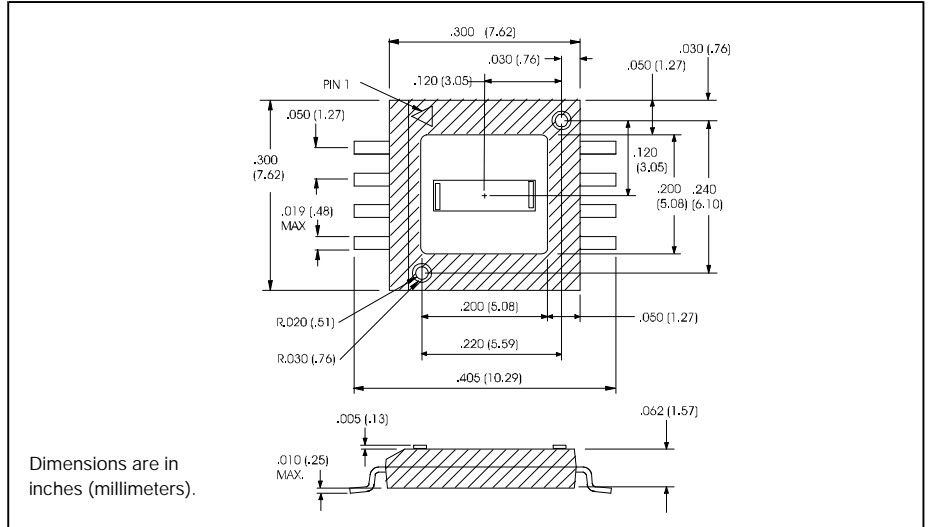
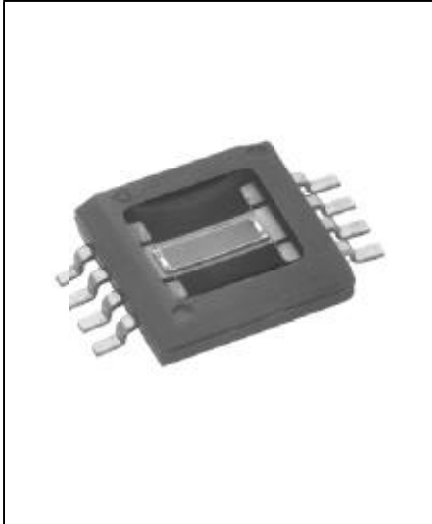


Position Sensing Detector Type OSM910, OSM910P

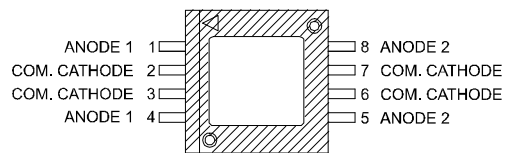


Features

- Excellent position detection capability
- High resolution capability
- High interelectrode resistance
- Fast response time

Description

The OSM910 Position Sensing Detector (PSD) is a silicon photodiode designed for use in distance or displacement sensing applications. The PSD produces an analog output that is directly proportional to the position of a light spot on the detector active area. The output produced is independent of the light spot intensity, profile, symmetry or size.



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

Storage Temperature Range	-40° C to +125° C
Operating Temperature Range	-40° C to +100° C
Reverse Voltage	30 V

Notes:

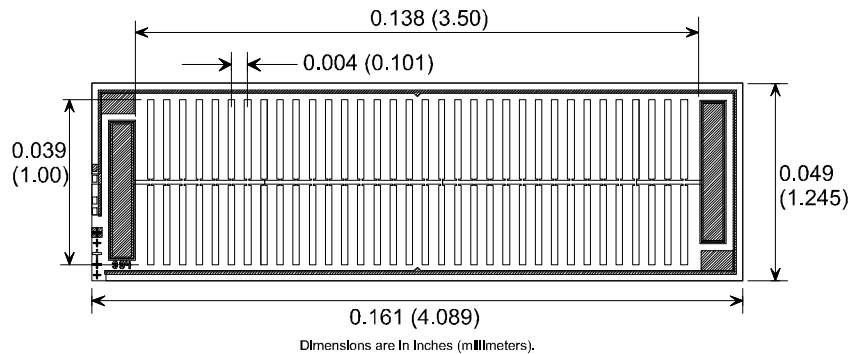
(1) Position Detection Error is defined by:

$$\frac{L}{2} \times \frac{l_1 - l_2}{l_1 + l_2} = \text{Incident Position}$$

L = Length of Active Area

(2) Alignment pins shown are for "P" suffix part number only.

Sensor Detail



Reference:

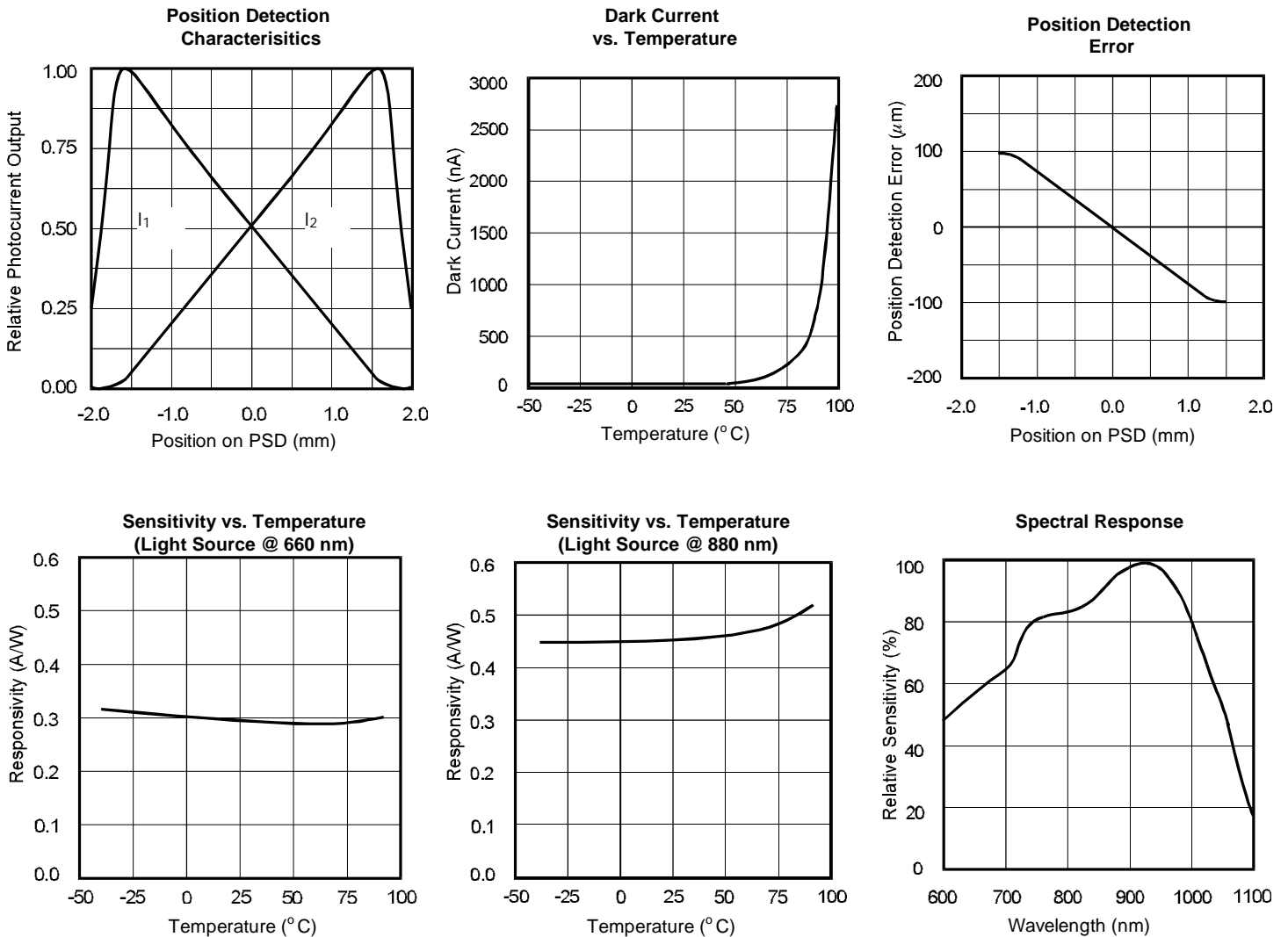
Refer to Optek's Application Note 216.

Type OSM910, OSM910P

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_P	Peak Sensitivity Wavelength		920		nm	$V_R = 5\text{ V}$
R_I	Responsivity		0.30		A/W	$V_R = 5\text{ V}$, $I_P = 660\text{ nm}$
R_I	Responsivity		0.43		A/W	$V_R = 5\text{ V}$, $I_P = 880\text{ nm}$
R_I	Inter-electrode Resistance		160		KW	$V_{BIAS} = 0.1\text{ V}$
I_D	Dark Current		10	100	nA	$V_R = 5\text{ V}$
I_S	Saturation Current		220		mA	$V_R = 5\text{ V}$, $I_P = 880\text{ nm}$
t_r	Rise Time		2.0	10.0	ms	$V_R = 5\text{ V}$, $I_P = 880\text{ nm}$ $R_L = 1\text{ KW}$

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.

Optek Technology, Inc. 1215 W. Crosby Road Carrollton, Texas 75006 (972) 323-2200 Fax (972) 323-2396