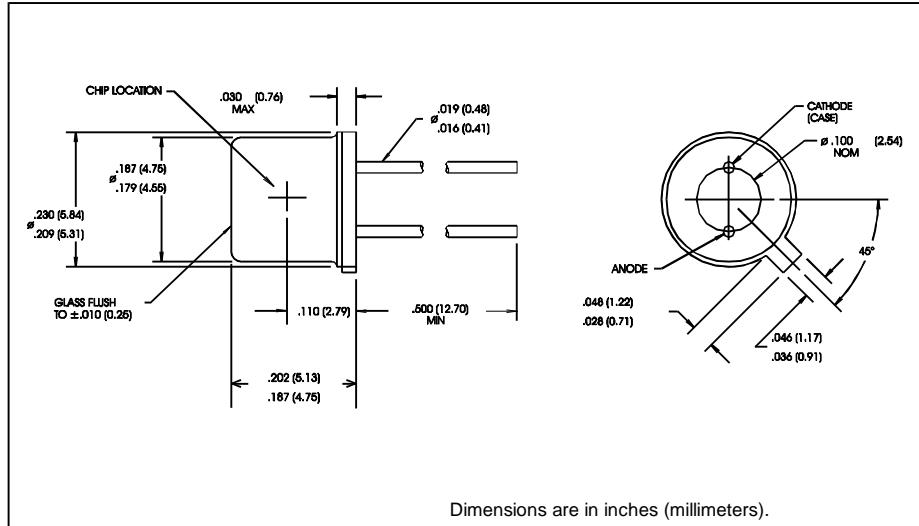


# PIN Silicon Photodiode Type OP910W



## Features

- Wide receiving angle
- Fast switching time
- Linear response vs. irradiance
- Enhanced temperature range

## Description

The OP910W consists of a PIN silicon photodiode mounted in a two-leaded hermetic TO-46 package. The flat lens has an acceptance half angle of  $\pm 40^\circ$ .

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

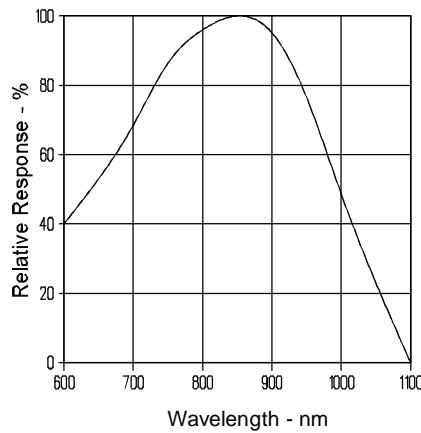
Reverse Voltage .....	60 V
Storage Temperature Range .....	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$
Operating Temperature Range .....	-65 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6mm) from case for 5 sec. with soldering iron] .....	200 $^\circ\text{C}$ <sup>(1)</sup>
Power Dissipation .....	250 mW

### Notes:

- (1) RMA Flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- (2) Light source is an unfiltered GaAs LED with a peak wavelength of 935 nm and a radiometric intensity level which varies less than 10% over the entire lens surface of the photodiode being tested.
- (3) Junction temperature maintained at 25 $^\circ\text{C}$ .
- (4) To calculate typical dark current in nA, use the formula  $I_D=10^{(0.42 T_A - 1.5)}$  where  $T_A$  is ambient temperature in  $^\circ\text{C}$ .
- (5) Derate linearly 2.5 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .

## Typical Performance Curves

Typical Spectral Response

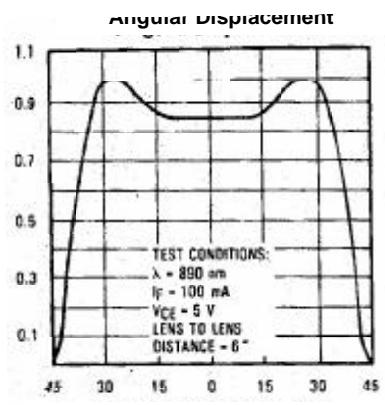
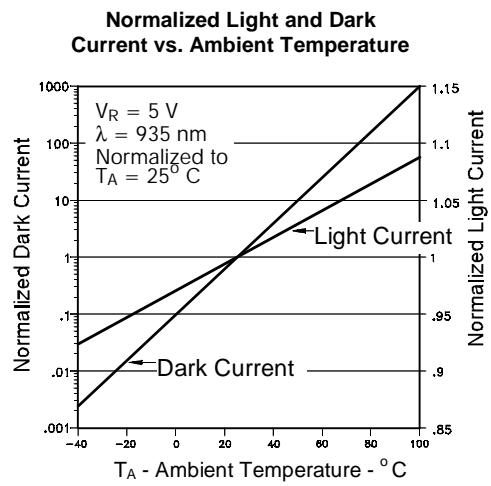
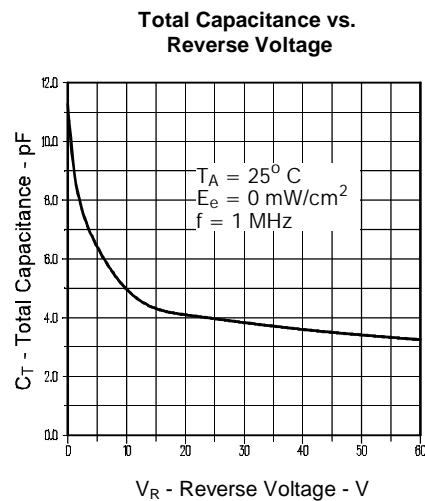
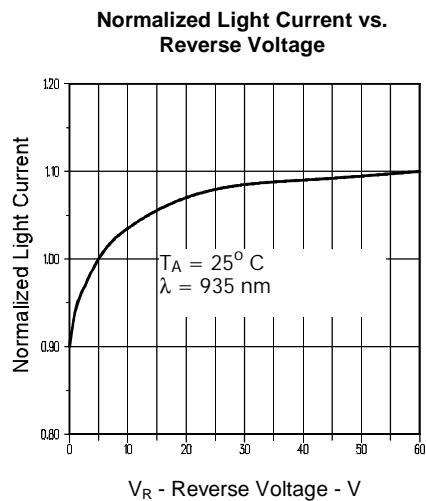


# Type OP910W

**Electrical Characteristics** ( $T_A = 25^\circ C$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITION
$I_L$	Light Current	1.7	2.4		mA	$V_R = 20 V$ , $E_e = .50 \text{ mW/cm}^2$ note 2, 3
$I_D$	Dark Current		1	10	nA	$V_R = 20 V$ , $E_e = 0.0$
$V_{(BR)R}$	Reverse Voltage Breakdown	100			V	$I_R = 100 \text{ mA}$
$t_r$	Rise Time		10		nS	$V_R = 20 V$ , $R_L = 50 \text{ OHMS}$
$t_f$	Fall Time		10		nS	$V_R = 20 V$ , $R_L = 50 \text{ OHMS}$
$\emptyset$	Half Angle		+/-40		degr.	$I_F = \text{Constant}$
$C_P$	Capacitance		13		pF	$V_R = 0 V$ , $F = 1 \text{ MHz}$ , $E_e = 0$
$V_F$	Forward Voltage			1.2	V	$I_F = 100 \text{ mA}$

## 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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