



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

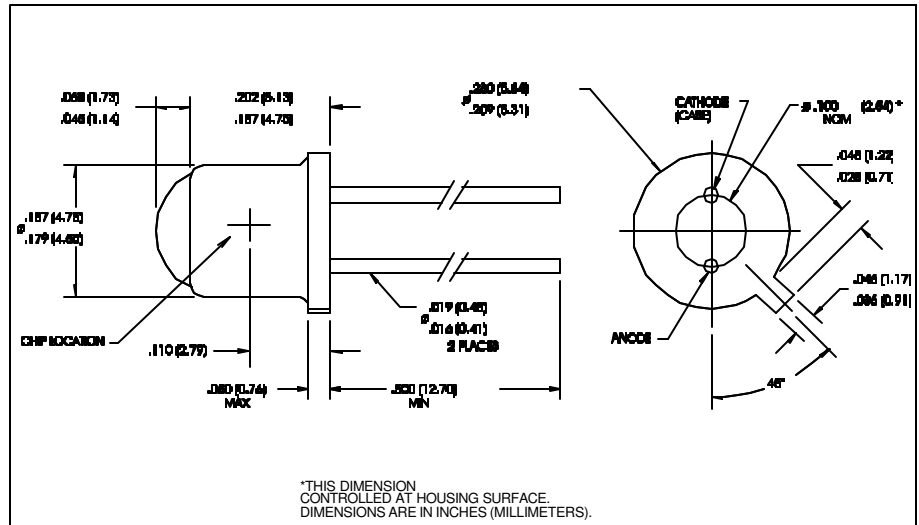
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# PIN Silicon Photodiode Type OP910



## Features

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

## Description

The OP910 consists of a PIN silicon photodiode mounted in a two-leaded hermetic TO-46 package. The narrow receiving angle has an acceptance half angle of  $\pm 12^\circ$ .

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

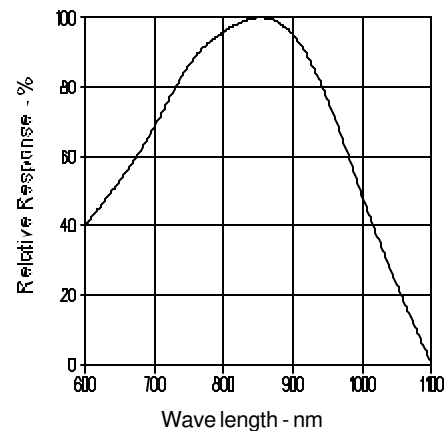
Reverse Voltage	.....	60 V
Storage Temperature Range	.....	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Operating Temperature Range	.....	$-65^\circ\text{C}$ to $+125^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	.....	$260^\circ\text{C}^{(1)}$
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 GaAlAs LED with a peak wavelength of 885 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  $I_D = 10^{(0.042 T_A - 1.5)}$  where  $T_A$  is ambient temperature in  $^\circ\text{C}$ .
- (5) Derate linearly  $2.5\text{ mW}/^\circ\text{C}$  above  $25^\circ\text{C}$ .

## Typical Performance Curves

Typical Spectral Response



# Type OP910

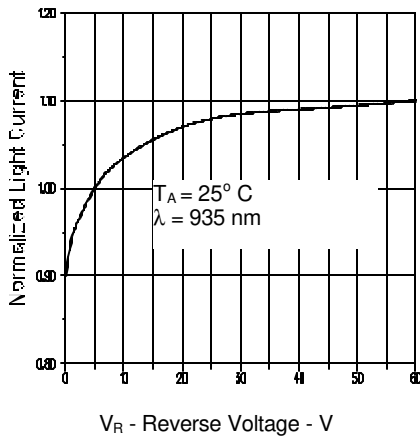
Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$I_L$	Light Current	10	13		$\mu\text{A}$	$V_R = 20\text{ V}$ , $E_e = .50\text{ mW/cm}^2$ note 2,3
$I_D$	Dark Current		1	10	nA	$V_R = 20\text{ V}$ , $E_e = 0.0$
$V_{(BR)R}$	Reverse Voltage Breakdown	100			V	$I_R = 100\ \mu\text{A}$
$t_r$	Rise Time		10		nS	$V_R = 20\text{ V}$ , $R_L = 50\text{ OHMS}$
$t_f$	Fall Time		10		nS	$V_R = 20\text{ V}$ , $R_L = 50\text{ OHMS}$
$\emptyset$	Half Angle		+/- 12		degr.	$I_F = \text{Constant}$
$C_P$	Capacitance		13		pF	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ , $E_e = 0$

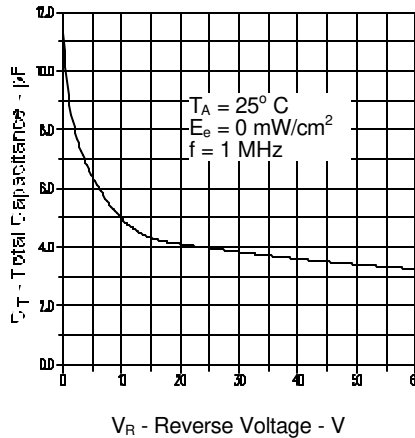
PHOTOSENSORS

## Typical Performance Curves

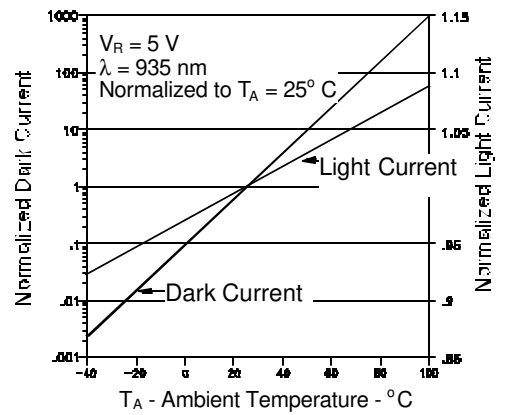
Normalized Light Current vs Reverse Voltage



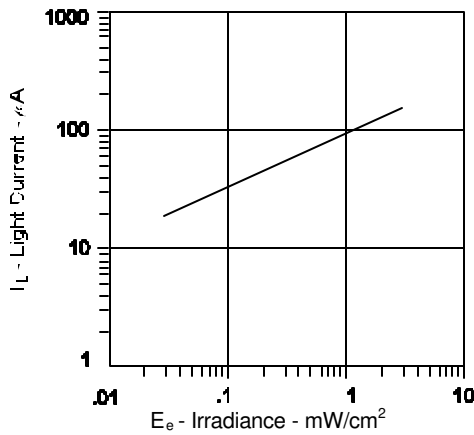
Total Capacitance vs Reverse Voltage



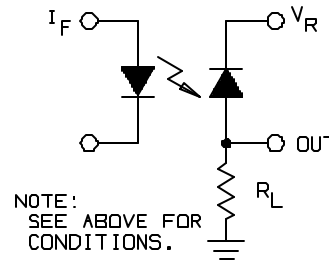
Normalized Light and Dark Current vs Ambient Temperature



Light Current vs Irradiance



Switching Time Test Circuit



Op tek 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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