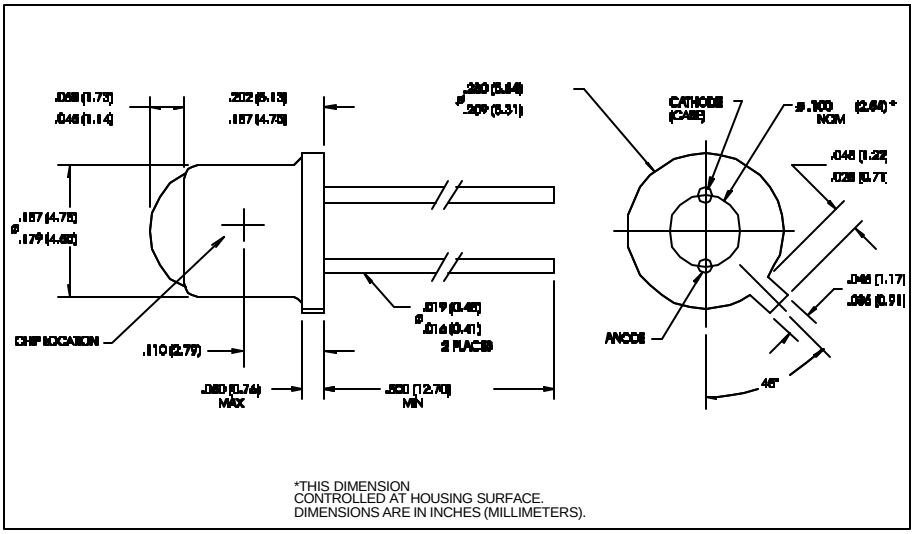
PIN Silicon Photodiode
Type OP910



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 ±12°.

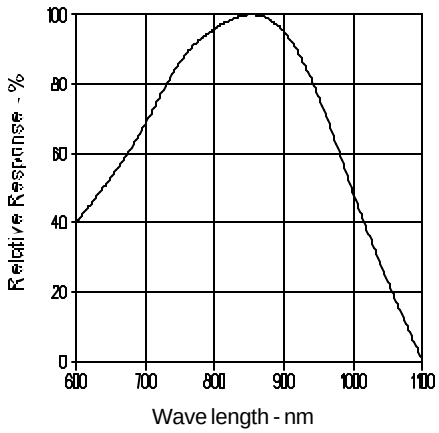
Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Reverse Voltage . . . . . 60 V
Storage Temperature Range . . . . . -65° C to +150° C
Operating Temperature Range . . . . . -65° C to +125° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] . . . . . 260° C(1)
Power Dissaipation . . . . . 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° C.
(4) To calculate typical dark current in nA, use. The formual $I_D = 10^{(0.042\ T_A - 1.5)}$ where T_A is ambient temperature in ° C.
(5) Derate linearly 2.5 mw/° C above 25° C.

Typical Performance Curves

Typical Spectral Response



Type OP910

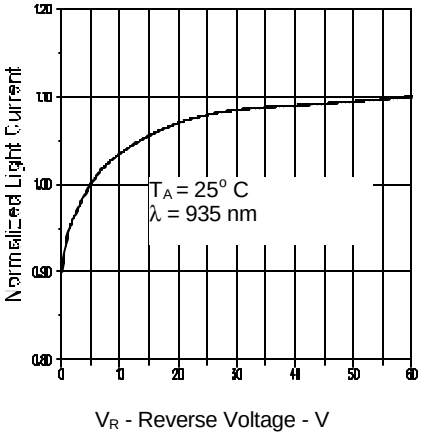
Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_L	Light Current	10	13		μA	V_R = 20 V, E_e = .50 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 μA
t_r	Rise Time		10		nS	V_R = 20 V, R_L = 50 OHMS
t_f	Fall Time		10		nS	V_R = 20 V, R_L = 50 OHMS
∅	Half Angle		+/- 12		degr.	I_F = Constant
C_P	Capacitance		13		pF	V_R = 0 V, F = 1 Mhz, E_e = 0

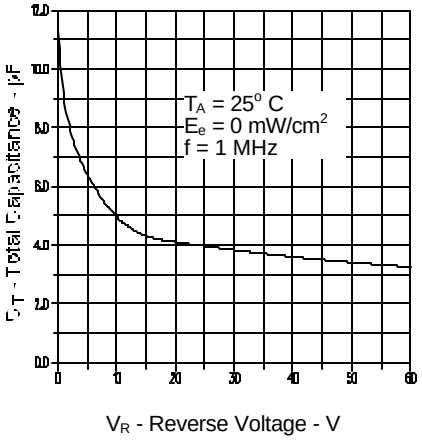
PHOTOSENSORS

Typical Performance Curves

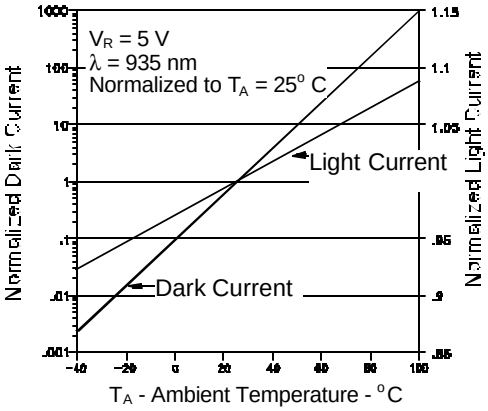
Normalized Light Current vs Reverse Voltage



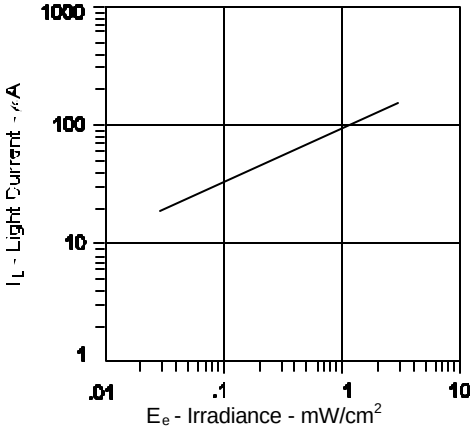
Total Capacitance vs Reverse Voltage



Normalized Light and Dark Current vs Ambient Temperature



Light Current vs Irradiance



Switching Time Test Circuit