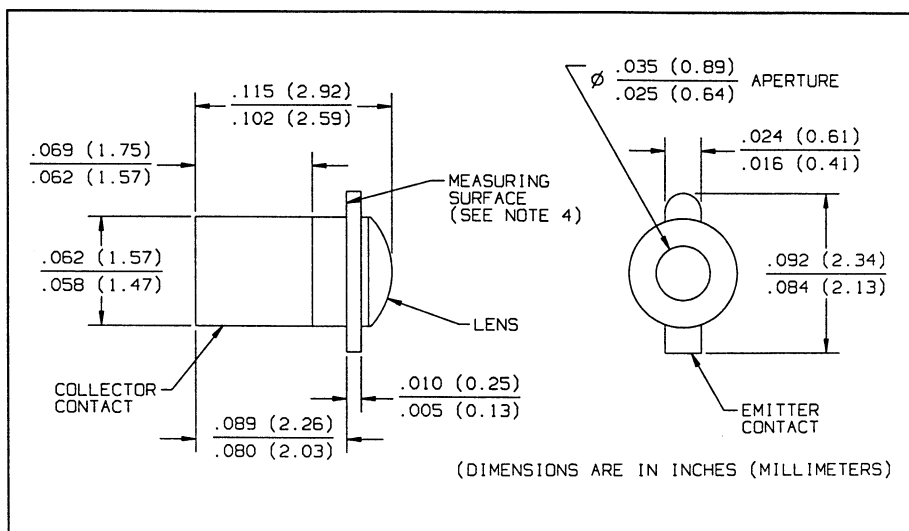
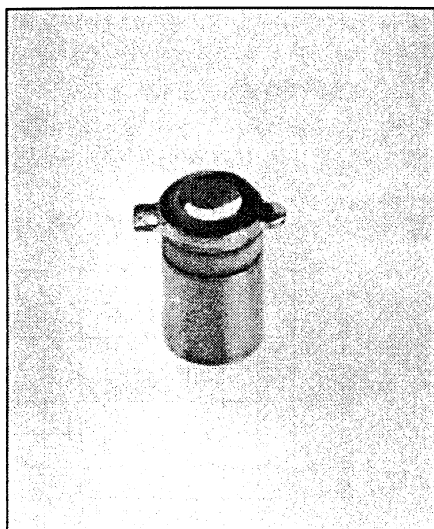


# PN Junction Silicon Photodiode Type OP900SL



## Features

- Narrow receiving angle
- Enhanced temperature range
- Ideal for direct mounting in PC boards
- Fast switching speed
- Mechanically and spectrally matched to the OP123 series emitters
- Linear response vs. irradiance

## Description

The OP900SL consists of a PN junction silicon photodiode mounted in a miniature, glass lensed, hermetically sealed "Pill" package. The lensing effect allows an acceptance half angle of  $18^\circ$  measured from the optical axis to the half power point.

## Replaces

OP900 series

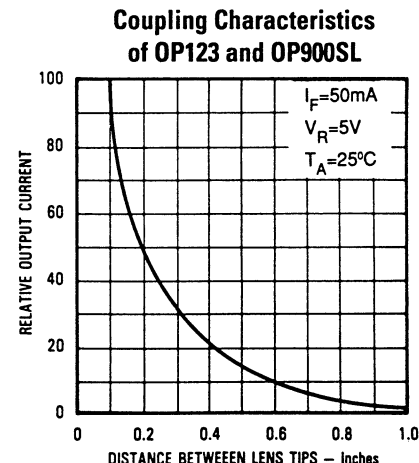
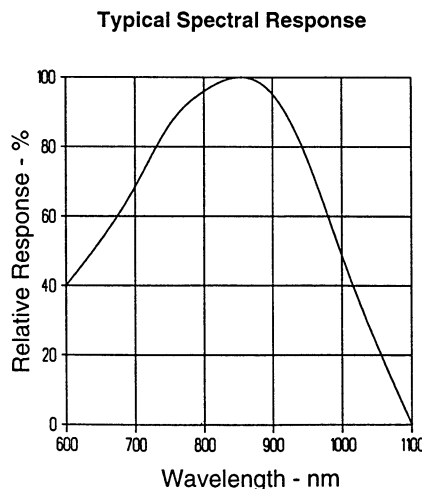
## Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

|                                                    |                                             |
|----------------------------------------------------|---------------------------------------------|
| Reverse Voltage                                    | 100 V                                       |
| Storage Temperature Range                          | $-65^\circ\text{C}$ to $+150^\circ\text{C}$ |
| Operating Temperature Range                        | $-65^\circ\text{C}$ to $+125^\circ\text{C}$ |
| Soldering Temperature (5 sec. with soldering iron) | $260^\circ\text{C}^{(1)}$                   |
| Power Dissipation                                  | $50\text{ mW}^{(2)}$                        |

### Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- (2) Derate linearly  $0.5\text{ mW}/^\circ\text{C}$  above  $25^\circ\text{C}$ .
- (3) Junction temperature maintained at  $25^\circ\text{C}$ .
- (4) Light source is an unfiltered tungsten bulb operating at  $CT = 2870\text{ K}$  or equivalent infrared source.

## Typical Performance Curves

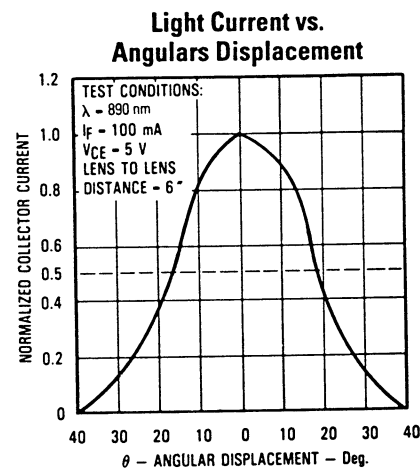
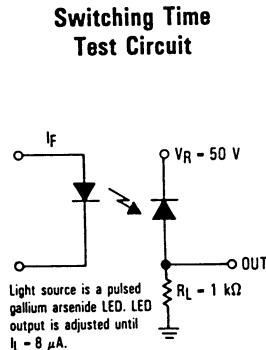
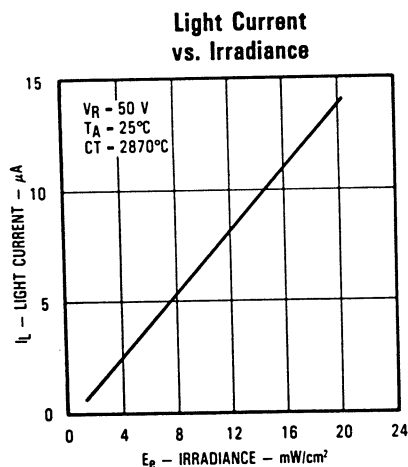
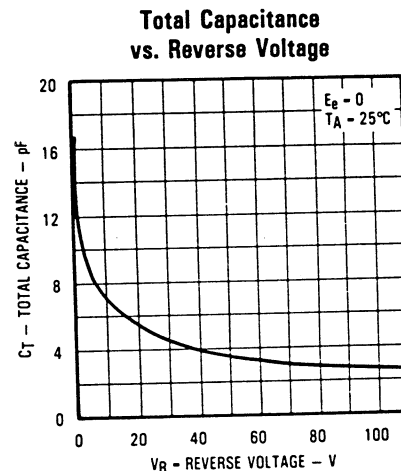
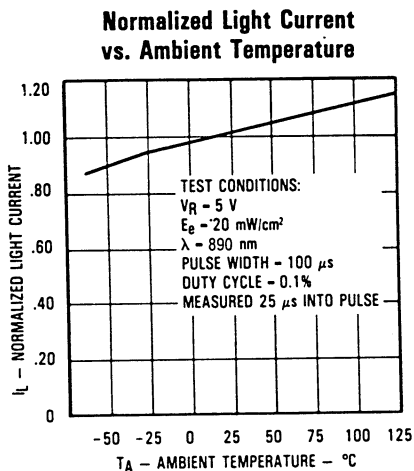
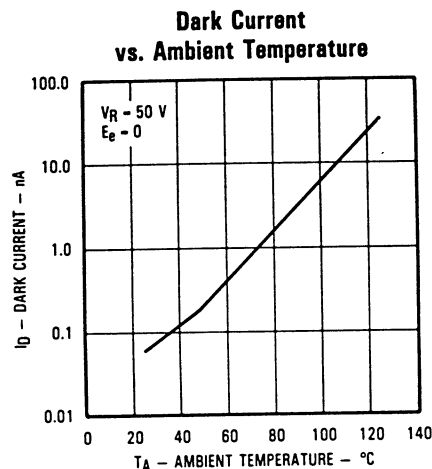


# Type OP900SL

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

| SYMBOL      | PARAMETER                 | MIN | TYP  | MAX | UNITS         | TEST CONDITIONS                                                   |
|-------------|---------------------------|-----|------|-----|---------------|-------------------------------------------------------------------|
| $I_L$       | Light Current             | 8.0 | 14.0 |     | $\mu\text{A}$ | $V_R = 10\text{ V}$ , $E_e = 20\text{ mW/cm}^2$ <sup>(3)(4)</sup> |
| $I_D$       | Dark Current              |     |      | 10  | nA            | $V_R = 10\text{ V}$ , $E_e = 0$ <sup>(3)</sup>                    |
| $V_{(BR)R}$ | Reverse Voltage Breakdown | 100 | 150  |     | V             | $I_R = 100\text{ }\mu\text{A}$                                    |
| $t_r$       | Rise Time                 |     | 100  |     | ns            | $V_R = 50\text{ V}$ , $I_L = 8\text{ }\mu\text{A}$                |
| $t_f$       | Fall Time                 |     | 100  |     | ns            | $R_L = 1\text{ k}\Omega$ , See Test Circuit                       |

## 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

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QQ         800077892  
  
Skype       ameyasales1 ameyasales2

➤ Customer Service :

Email       service@ameya360.com

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