

OP916



- Coaxial leads gold plated
- Narrow receiving angle
- Enhanced temperature range
- Fast switching speed
- Linear response vs. irradiance

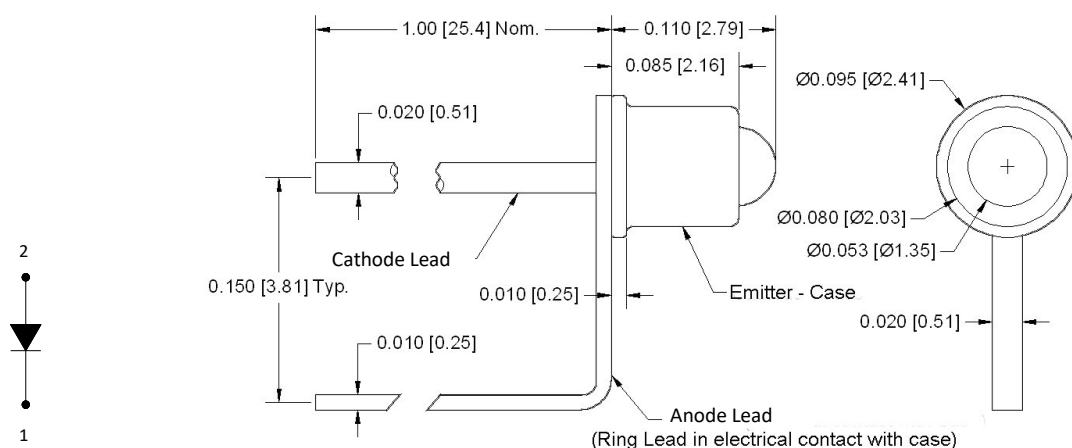


Each OP916 consists of a PIN junction silicon photodiode mounted in a miniature glass-lensed coaxial hermetically sealed package. The lensing effect allows an acceptance half-angle of  $18^\circ$ , when measured from the optical axis to the half-power point.

- Non-contact reflective object sensor
- Assembly line automation
- Machine automation
- Machine safety
- End of travel sensor
- Door sensor

Ordering Information	
Part Number	Sensor
OP916	Photodiode

Pin #	Lead type
1	Cathode
2	Anode



All dimensions in inches [mm]

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# PIN Junction Si Photodiode

OP916



## Electrical Specifications

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

Reverse Voltage	100 V
Operating Temperature Range	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Storage Temperature Range	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from the case for 5 seconds with soldering iron]	$260^\circ\text{C}^{(1)}$
Power Dissipation	$50\text{ mW}^{(2)}$

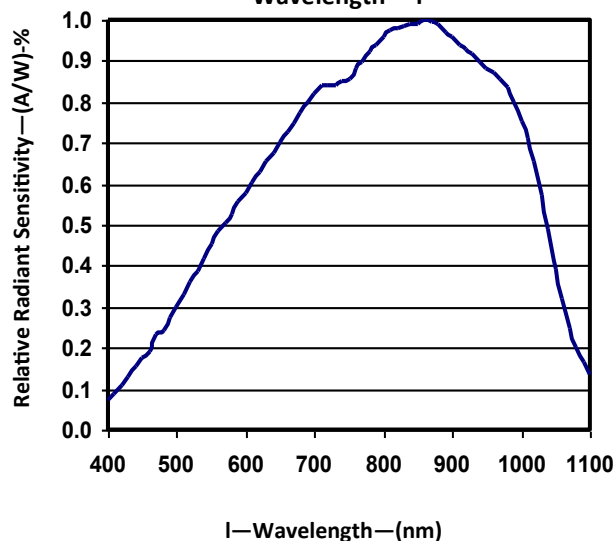
**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$I_L$	Light Current	4.5		1,000	$\mu\text{A}$	$V_R = 20\text{ V}$ , $E_E = 5\text{ mW/cm}^2$ <sup>(3)(4)</sup>
$I_D$	Dark Current	-	-	20	nA	$V_R = 20\text{ V}$ , $E_E = 0$ <sup>(3)</sup>
$V_{(BR)R}$	Reverse Voltage Breakdown	30		-	V	$I_R = 100\text{ }\mu\text{A}$
$t_r$	Rise Time	-	100	-	ns	$V_R = 50\text{ V}$ , $I_L = 8\text{ }\mu\text{A}$ , $R_L = 1\text{ k}\Omega$
$t_f$	Fall Time	-	100	-		

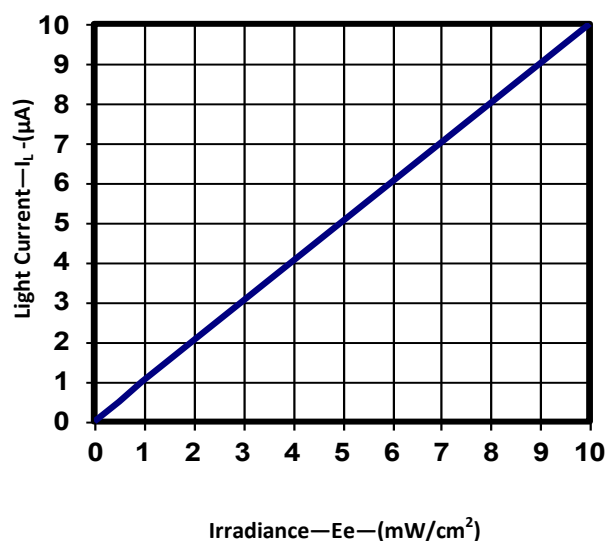
Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum 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.

**Spectral Responsivity vs.  
Wavelength— $\lambda$**



**Typical Light Current— $I_L$  vs.  
Irradiance— $E_E$**



### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.