

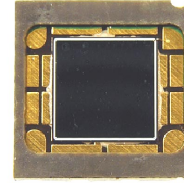
# Surface Mount PIN Photodiode

OPR5910/T, OPR5913



## Features:

- Surface mountable
- High temperature operation
- Square active area (OPR5910)
- Large area photodiode (OPR5913)
- 880 nm peak responsivity offers maximum coupling with OPTEK's GaAIAs LEDs (OPR5910)



## Description:

Each OPR5910 and OPR5913 device is a silicon PIN photodiode enclosed in a compact polyamide chip carrier and is designed for open air communications and ambient light detection circuits.

The custom opaque package shields the photodiodes from stray light and can withstand multiple exposures to the most demanding soldering conditions, while the wraparound gold-plated solder pads offer exceptional storage and wetting characteristics.

See Application Bulletin 237 for Handling Instructions.

## Applications:

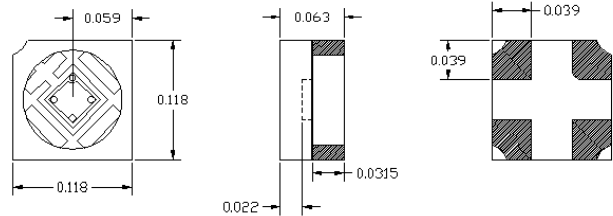
- Encoder applications
- Control applications

Ordering Information						
Part Number	Receiver Type	# of Elements	Responsivity (mA/mW) Min.	Reverse Voltage Min.	Active Area (mm <sup>2</sup> )	Packaging
OPR5910	Photodiode	1	0.45	65	0.80	Chip Tray
OPR5910T			0.45	65	0.80	Tape & Reel
OPR5913			0.40	10	26.00	Chip Tray

**Warning:** Front Window is pressure sensitive. Do not apply pressure or high vacuum to window.

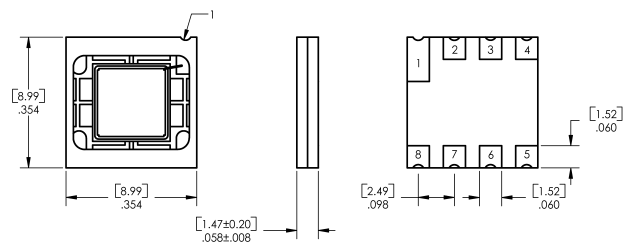
### OPR5910

Pin #	Description
1	Cathode
2	Anode
3	NC
4	NC



### OPR5913

Pin #	Description	Pin #	Description
1	Anode	5	NC
2	Cathode	6	Cathode
3	Cathode	7	Cathode
4	NC	8	NC



**ESD**  
(Human Body Model)



**MOISTURE**  
(Level-4)



**Pb-Free**  
(RoHS)

## 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.

TT Electronics | OPTEK Technology  
2900 E. Plano Pkwy, Plano, TX 75074 | Ph: +1 972 323 2200  
www.ttelectronics.com | sensors@ttelectronics.com

### Electrical Specifications

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

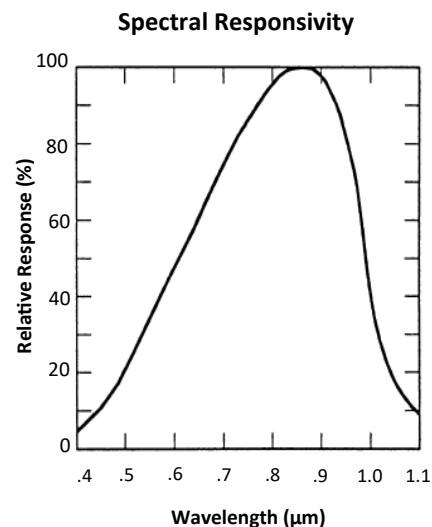
Storage and Operating Temperature	-55° C to +125° C
Reverse Breakdown Voltage OPR5910 OPR5913	35 V / minute 10 V / minute
Solder reflow time within 5° C of peak temperature is 20 to 40 seconds <sup>(1)</sup>	250° C

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
R	Responsivity OPR5910 OPR5913	0.45 0.40	- -	- -	A/W	$E_e = 10\ \mu\text{W}$ , $\lambda = 890\ \text{nm}$ , $V = 0\ \text{V}$
$V_{BR}$	Reverse Breakdown Voltage OPR5910 OPR5913	35 10	- -	- -	V	$I_R = 100\ \mu\text{A}$
$I_D$	Reverse Dark Current OPR5910 OPR5913	- -	- -	30 100	nA	$V_R = 10\ \text{V}$ $V_R = 0.5\ \text{V}$
$C_T$	Capacitance OPR5910 OPR5913 OPR5913	- - -	25 1000 250	- - -	pF	$V_R = 0\ \text{V}$ $V_R = 0\ \text{V}$ $V_R = 10\ \text{V}$
LxW	Active Area OPR5910 OPR5913	- -	0.75 26	- -	mm <sup>2</sup>	(0.86 mm x 0.86 mm) (5.1 mm x 5.1 mm)

Notes:

- (1) Solder time less than 5 seconds at temperature extreme.



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.