

## InGaAs PIN PHOTODIODES

## PD-1150-XXX

### PIN Photodiode with Mini-Size TO Package

#### FEATURES

- 2 High Responsivity for Dual windows at 1310 nm and 1550 nm
- 2 Low Dark Current
- 2 Quick Pulse Response
- 2 Hermetically Sealed 2-Pin Metal Case
- 2 2.4 mm Mini-Size Package with Flat Window Cap: PD-1150-XXX
- 2 2.4 mm Mini-Size Package with Dome Lens Cap: PD-1153-XXX
- 2 2.4 mm Mini-Size Package with Ball Lens Cap: PD-1155-XXX

#### DESCRIPTION

PD-115X-XXX series InGaAs Photodiode are suited to receive the light at the wavelength range from 1100 nm to 1620 nm.

PD-1150-075 / PD-1153-075/PD-1155-075						
ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25°C)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
	Active Area			75		μm
	Detection Range		1100	1310	1620	nm
R	Responsivity	V <sub>R</sub> =5V, λ=1300nm	0.85		-	A/W
		V <sub>R</sub> =5V, λ=1550nm	0.90			A/W
I <sub>dark</sub>	Dark Current	V <sub>R</sub> =5V		0.2	0.6	nA
C	Capacitance	V <sub>R</sub> =5V, f=1MHz		0.6	1.0	pF
T <sub>r</sub> /T <sub>f</sub>	Rise/Fall Time	V <sub>R</sub> =5V, 10~90%			0.3	ns
BW	Bandwidth	V <sub>R</sub> =5V	2			GHz

PD-1150-100 / PD-1153-100/ PD-1155-100						
ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25°C)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
	Active Area			100		μm
	Detection Range		1100	1310	1620	nm
R	Responsivity	V <sub>R</sub> =5V, λ=1300nm	0.85		-	A/W
		V <sub>R</sub> =5V, λ=1550nm	0.90			A/W
I <sub>dark</sub>	Dark Current	V <sub>R</sub> =5V		0.3	1.0	nA
C	Capacitance	V <sub>R</sub> =5V, f=1MHz		1.2	1.5	pF
T <sub>r</sub> /T <sub>f</sub>	Rise/Fall Time	V <sub>R</sub> =5V, 10~90%			0.5	ns
BW	Bandwidth	V <sub>R</sub> =5V	2			GHz

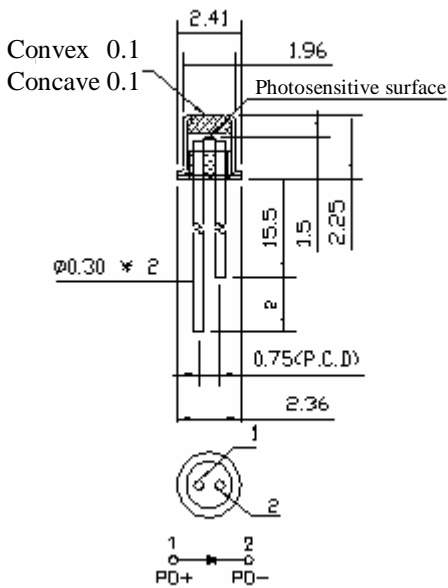
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PD-1150-150 /PD-1153-150/ PD-1155-150						
ELECTRICAL AND OPTICAL CHARACTERISTICS (T <sub>C</sub> =25°C)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
	Active Area			150		μm
	Detection Range		1100	1310	1620	nm
R	Responsivity	V <sub>R</sub> =5V, λ=1300nm	0.85		-	A/W
		V <sub>R</sub> =5V, λ=1550nm	0.90			A/W
I <sub>dark</sub>	Dark Current	V <sub>R</sub> =5V		0.4	1.5	nA
C	Capacitance	V <sub>R</sub> =5V, f=1MHz		2.0	2.5	pF
T <sub>r</sub> /T <sub>f</sub>	Rise/Fall Time	V <sub>R</sub> =5V, 10~90%		1		ns
BW	Bandwidth	V <sub>R</sub> =5V		1		GHz

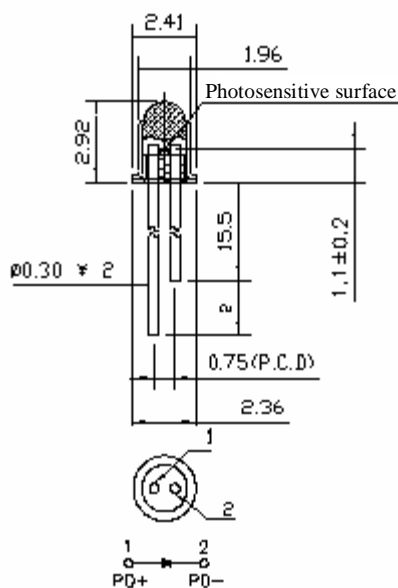
ABSOLUTE MAXIMUM RATINGS (T <sub>C</sub> =25 °C)			
Symbol	Parameter	Ratings	Unit
P <sub>o</sub>	Input Optical Power	10	mW
V <sub>RD</sub>	Reverse Voltage	20	V
I <sub>FD</sub>	Forward Current	10	mA
T <sub>opr</sub>	Operating Temperature	-40~+85	°C
T <sub>stg</sub>	Storage Temperature	-40~+85	°C

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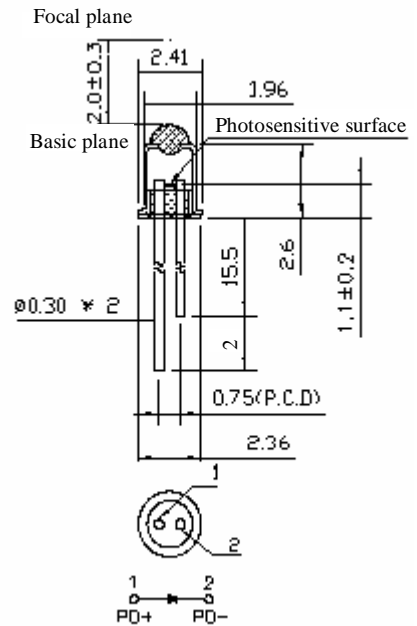
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



PD-1150-XXX  
(Flat Window Cap)



PD-1153-XXX  
(Dome Lens Cap)



PD-1155-XXX  
(Ball Lens Cap)

**Note:** 1. Specifications subject to change without notice.  
2. Other PIN assignment is available upon request.

## ORDER INFORMATION

Part No.: P D - 1 1 5  -

Code	Cap
0	Flat Window
3	Dome lens
5	Ball Lens

Code	Active area
075	75 μm
100	100 μm
150	150 μm

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REVISION HISTORY

Version	Subject	Release Date
1.0	Initial datasheet	2004/1/2/15
2.0	Reverse mechanical drawing	2009/4/9
3.0	Add new model PD-1153-XXX(dome lens cap)	2009/10/1
4.0	Revised the capacitance value	2010/1/12