

## PDA-1500-FA

### InGaAs PIN Photodiode Module for CATV Receiver

#### DESCRIPTION

PDA-1500-FA InGaAs PIN Photodiode series are high quality analog photodetectors designed for AM CATV receiver applications. These receptacle type modules are optically aligned to optimize performance and balance the parameters of responsivity, distortion and back reflection. PDA-1500 series are suitable in forward and return path applications including AM-VSB CATV, QAM 64/256, PON, FTTC and FTTH receivers.

#### FEATURES

##### Electro-Optical

- Low Inter-modulation Distortion
- High Responsivity
- Low Back Reflection

##### Packaging

- Receptacle

#### ABSOLUTE MAXIMUM RATINGS

Stress in excess of the absolute maximum rating can cause permanent damage to the device. These are absolute stress rating only. Functional operation of the device is not implied at these or any other conditions in excess of these given in the operational sections of the datasheet. Exposure to absolute ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Unit
Forward Current			10	mA
Reverse Current			10	mA
Reverse Voltage			25	V
Power Dissipation	P <sub>DISS</sub>		100	mW
Soldering Temperature	T <sub>solder</sub>		260/10	°C/sec
Operating Temperature Range	T <sub>op</sub>	-40	85	°C
Storage Temperature Range	T <sub>stg</sub>	-40	85	°C

#### CHARACTERISTICS

##### ELECTRICAL AND OPTICAL CHARACTERISTICS (T<sub>C</sub> = 25°C, V<sub>R</sub> = 12V)

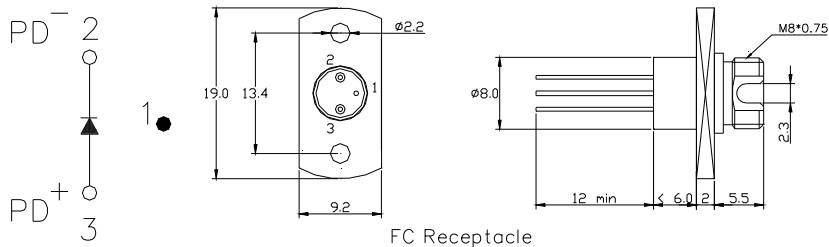
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
R	Responsivity	λ= 1300nm	0.80			A/W
		λ= 1550nm	0.85			
IM2	2 <sup>nd</sup> Order Intermodulation Modulation	Note (1*)			-70	dBc
I <sub>dark</sub>	Dark Current	V <sub>R</sub> =5V			1	nA
C	Capacitance	f=1MHz, Case Ground, V <sub>R</sub> =5V			1.0	pF
BW	Bandwidth	3 dB down, R <sub>L</sub> =50Ω	2.0			GHz

1\*. IM2 measured at V<sub>R</sub>=12V, λ=1550nm, P<sub>avg</sub>=0dBm, MI=0.7, R<sub>LOAD</sub>=50, f<sub>1</sub>+f<sub>2</sub>=850.25 MHz, f<sub>1</sub>-f<sub>2</sub>=50.25MHz

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**PRECAUTIONS for USE**

ESD protection is imperative. Use of grounding straps, anti-static mats, and other ESD protective equipment is recommended when handling or testing an InGaAs PIN or any other junction photodiodes.

**MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT**



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

**ORDER INFORMATION**

Part No.: P D A - 1 5 0 0 - □ □

Code	Receptacle
SA	SC/APC
FA	FC/APC

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Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2004/8/1