

## 1550nm 350um 1x3 array BFM PD

### L-CR-AP99-06

Ver. : 1.0

#### Type Name: L-CR-AP99-06

#### Product Description:

This 350 $\mu$ m Back-Facet-Monitor (BFM) PIN photodiode is designed for top illumination of the circular active region and is described with reference to Figure 1. The light passes into the device through an antireflection coated region, through the diffused p-type InP layer and is absorbed in the InGaAs active region. A reverse electrical bias is applied across the active region by the p and n ohmic contacts which are connected respectively to the P+ InP and the N+ InP. Connection to the anode bond-pad is made via separately deposits secondary interconnect metals. The optical aperture is 350 $\mu$ m in diameter. The key performance metrics of the device are the dark current and responsivity.

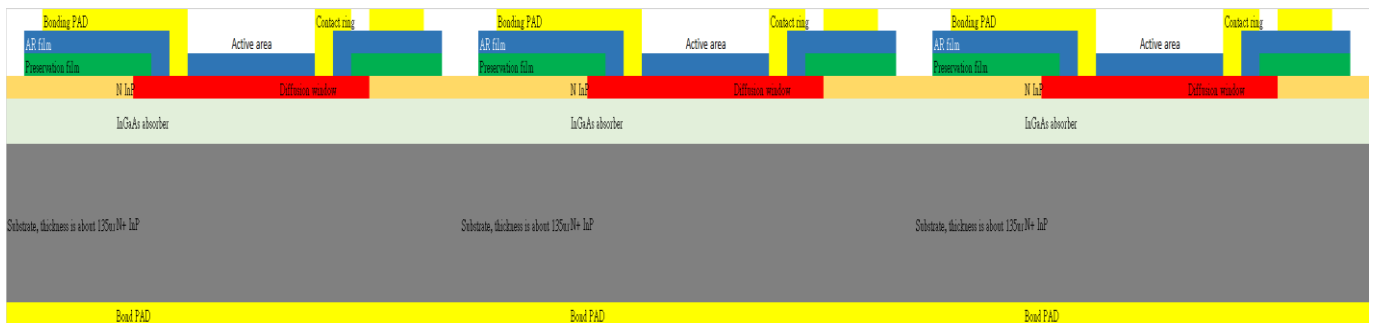


Figure 1 Cross sectional schematic of BFM PIN Photodiode (not to scale)

#### Application Note:

- The following document is intended to define the general specification for the characteristics of the 350 $\mu$ m BFM PIN photodiode (hereafter referred to as the 350 $\mu$ m BFM) for use in semiconductor laser power monitoring and etalon tuning applications.

*All specifications or information contained herein are subject to change for improvement without notice.  
 Further details are available from any LUXNET sales representative.*

## Product Specifications:

### Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max	Note
Forward Current	I <sub>F</sub>	mA		3	
Reverse Voltage	V <sub>R</sub>	V		20	
Reverse Current	I <sub>R</sub>	mA		3	
Operating Temperature	T <sub>op</sub>	°C	-40	85	
Storage Temperature	T <sub>stg</sub>	°C	-40	100	
ESD threshold (HBM)	ESD	V	500		

### Electro-Optical Characteristics (T = 25°C, unless noted otherwise):

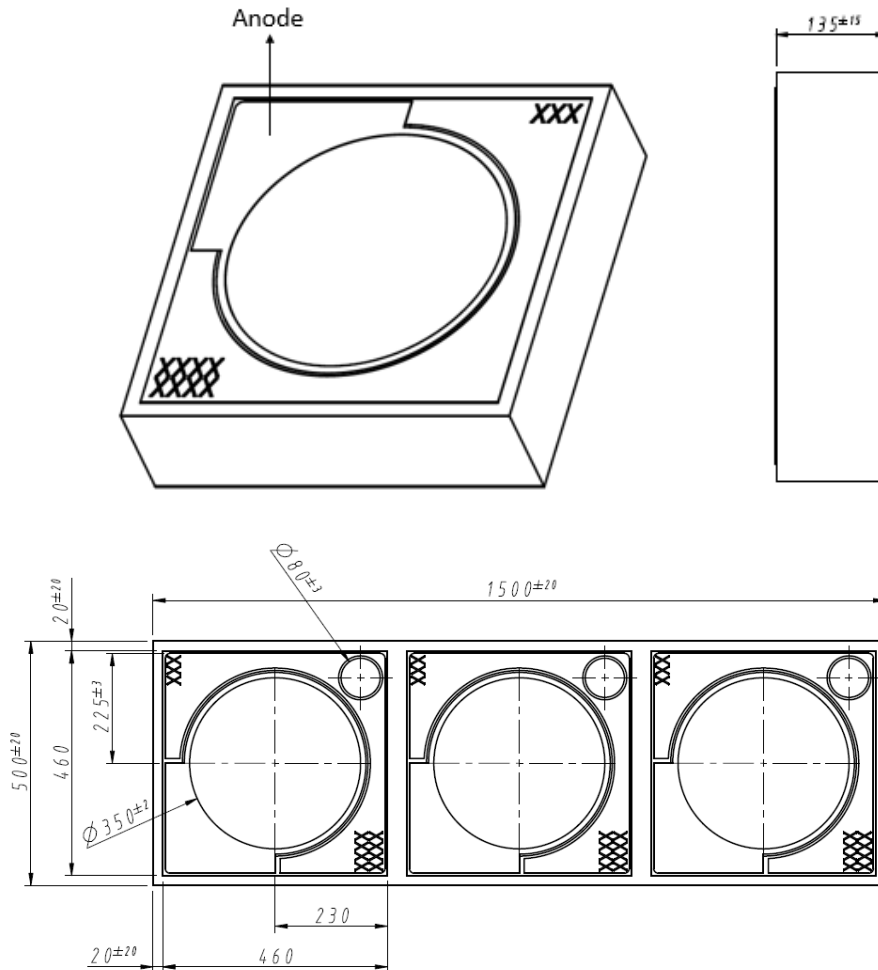
Parameter	Symbol	Unit	Min.	Typ	Max.	Test Condition
Aperture	D	μm	348	350	352	
Responsivity	RSP	A/W	0.95			λ = 1550 nm, V <sub>R</sub> =5V
Dark current	I <sub>D</sub>	nA			50	V <sub>R</sub> =5V, 25°C
					1.0	V <sub>R</sub> =5V, 25°C; Start of life
Breakdown voltage	V <sub>B</sub>	V	30			I <sub>R</sub> = 10uA
Capacitance	C	pF		10	15	V <sub>R</sub> = 5V , f = 1 MHz
Linearity	LIN				2%	Pin: 0.1,0.5mW; V <sub>R</sub> = 5V
Responsivity outside active area	RSPout	A/W			0.002	λ = 1550 nm, V <sub>R</sub> =5V

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**L-CR-AP99-05**

**Dimension:** (μm)

*All dimensions are nominal*



**Chip configuration:**

1. Bonding pad: Au (0.6μm); Bottom contact: Au (0.5μm)
2. Bonding pad diameter(Anode): 225\*225 μm
3. Dimension:  
 Chip: 500μm (width) x 1500μm (length) x 135μm (thickness)  
 Tolerance: ± 15 μm (Chip thickness); ± 20 μm( Width, Length)

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## Document History

Version	Date (MM/DD/YYYY)	Notes
0	06/28/2023	Initial

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