

# 4Gbps Long Wavelength InGaAs PIN PD

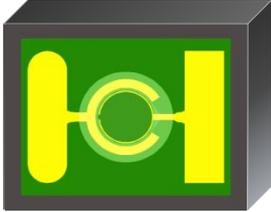
P/N: DO073\_80um\_E1



Known Good Die

## DATASHEET

### Introduction



This high-performance product is a front side illuminated InGaAs PIN photodiode chip that features a large 80 $\mu$ m detection window, and two large flexible wire-bonding pads. This product has low capacitance, high responsivity, low dark current and excellent reliability, designed for various high-speed optical receiver applications at data rates from 155Mbps to 4.25Gbps at long wavelength from 1200nm to 1600nm with an either single mode or multi-mode fiber.

### Key Features

- 80 $\mu$ m optical detection window for better optical alignment
- Front-sided large contact pads for flexible wire bonding
- Data rate up to 4.25Gbps
- Excellent low dark current and capacitance
- -40C to 85C operation range
- Highly robust and low-cost 4" IC wafer fab with fast cycle-time
- Deliverable in GCS Known Good Die™ with 100% testing and inspection
- RoHS compliant

### Applications

- EPON
- SR/LR optical network
- Gigabit Ethernet
- 4G Fiber Channel
- SONET/SDH OC-48
- ATM, CATV

### SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-5V		5	-	GHz	
Wavelength range		910	1310/1550	1650	nm	
Capacitance	-5 V, 1 MHz		0.41	0.44	pF	
Responsivity	@1310 nm	0.8	0.9	-	A/W	
Dark current	-5V	-	0.5	5	nA	
Reverse Breakdown	-20V	-		1	$\mu$ A	

### ABSOLUTE MAXIMUM RATING

Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-40C to 125C
Soldering Temperature	320C / 5 sec

### Global Communication Semiconductors, LLC

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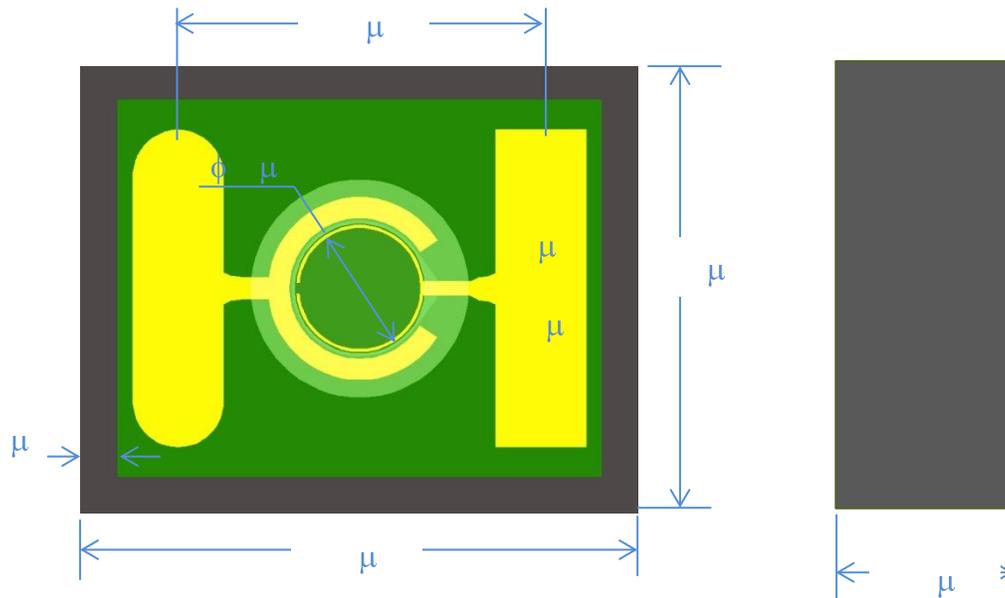
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**DIMENSIONS**

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			80		μm	
Bonding pad size			60 x 210		μm	for both p- and n- pads
Metal height of bond pad		1.4	1.6	-	μm	Au metal
Die height		110	120	130	μm	
Die width		290	300	310	μm	
Die length		360	370	380	μm	



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Attention: InP brittle material and electrostatic sensitive device, observe precaution for handling.

**About GCS:**

GCS has a long history manufacturing and shipping both GaAs and InGaAs based photo diodes since 2000. Our state of art manufacturing facility is located in Torrance, California, and has about 10,000 square feet of fab space with a capability of about 1200 4-inch wafers per month and expandable to 2000 wafers per month. GCS as a world-class semiconductor device manufacturer has been delivering a total of over 30 million photo diodes with various date rates and applications used for optical communications, which have been deployed in field by top tier optical transceiver companies worldwide. ■

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