



Known Good Die

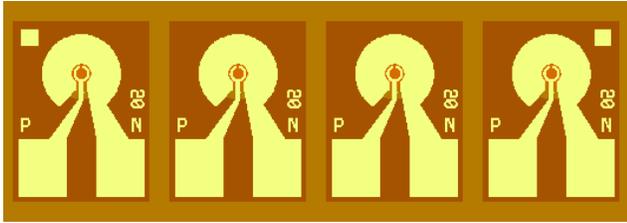
# 25Gbps Long Wavelength InGaAs PIN PD

P/N: DO309\_20um\_C3\_NH (1x4 array)

## DATASHEET

### Introduction

The DO309\_20um\_C3\_NH 1x4 product is a high-performance front side illuminated InGaAs PIN photodiode array with low capacitance, high responsivity, low dark current and proven excellent reliability. Designed with a 20µm detection window and 250um die-to-die pitch, these products are tailored for long wavelength optical receiver applications with data rates up to 25Gbps at wavelengths from 1200nm to 1600nm with single mode fiber in non-hermetic packages.



### Key Features

- Excellent low dark current and capacitance
- -40C to 85C operation range
- 20µm detection window for enhanced optical alignment
- Front-sided contact pads for flexible wire bonding
- Data rate up to 25Gbps/channel
- Highly robust, low-cost 4" IC wafer FAB with fast cycle-time
- Deliverable in GCS Known Good Die™ with 100% testing and inspection
- RoHS compliant

### Applications

- IEEE 100 Gigabit Ethernet

### SPECIFICATIONS (T=25C)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V		30*		GHz	With TIA
Wavelength range		910	1310/1550	1650	nm	Default ARC is 1310nm
Capacitance	-5 V, 1 MHz		0.08	0.10	pF	
Responsivity	@1310 nm	0.7	0.77		A/W	
Dark current	-5V		0.3	3	nA	

### ABSOLUTE MAXIMUM RATING

Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-55C to 125C
Soldering Temperature	260C / 10 sec

### Global Communication Semiconductors, LLC

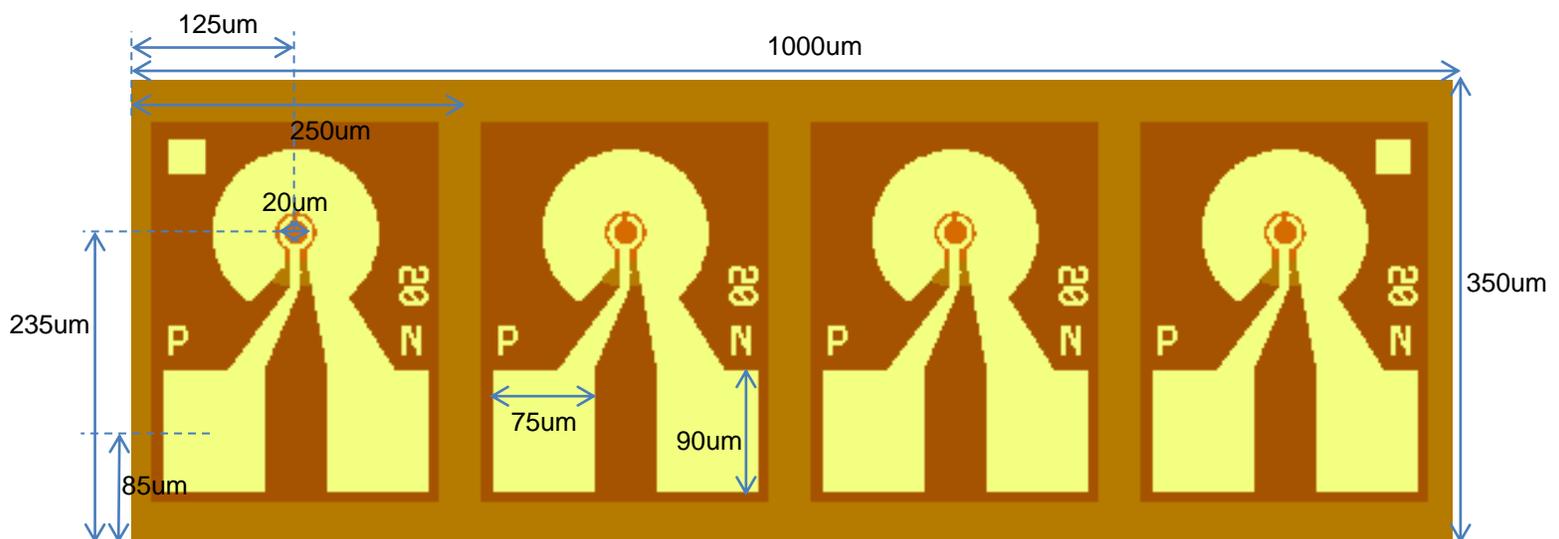
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## DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			20		μm	
Die pitch			250		μm	
Bonding pad size			75x90		μm <sup>2</sup>	Ground pads
Metal height of bond pad		1.4	1.6		μm	Au metal
Die height		140	150	160	μm	
Die width		340	350	360	μm	
Die length		990	1000	1010	μm	



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Attention: Handle with care, InP is a brittle material. Avoid ESD; the device may be permanently damaged.

### About GCS:

GCS is a world-class semiconductor manufacturer specializing in advanced photodiode technologies. We provide advanced GaAs and InGaAs photodiodes of varying data rate and application to multiple top tier optical transceiver customers throughout the world. With over 15 years' experience and over 150 million units delivered, our state of the art manufacturing facility has the capacity to produce 2,000 (100mm) wafers per month.

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