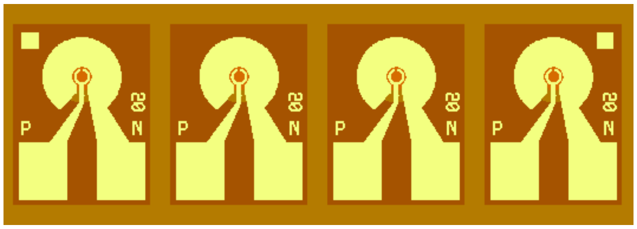
25Gbps Long Wavelength InGaAs PIN PD

P/N: DO309_20um_C3_1x4

PRELIMINARY DATASHEET



Introduction

This high-performance product is a front side illuminated InGaAs PIN photodiode array chip that features a 20µm detection window, with the 250um die-to-die pitch. This product has low capacitance, high respsonsivity, low dark current and excellent reliability, designed for long wavelength optical receiver applications with date rate up to 25Gbps at wavelength from 1200nm to 1600nm with single mode fiber.

Key Features

- 20µm optical detection window for better optical alignment
- Front-sided contact pads for flexible wire bonding
- Date rate up to 25Gbps/channel
- 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

- IEEE 100 Gigabit Ethernet

SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V		22	-	GHz	
Wavelength range		910	1310/1550	1650	nm	
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

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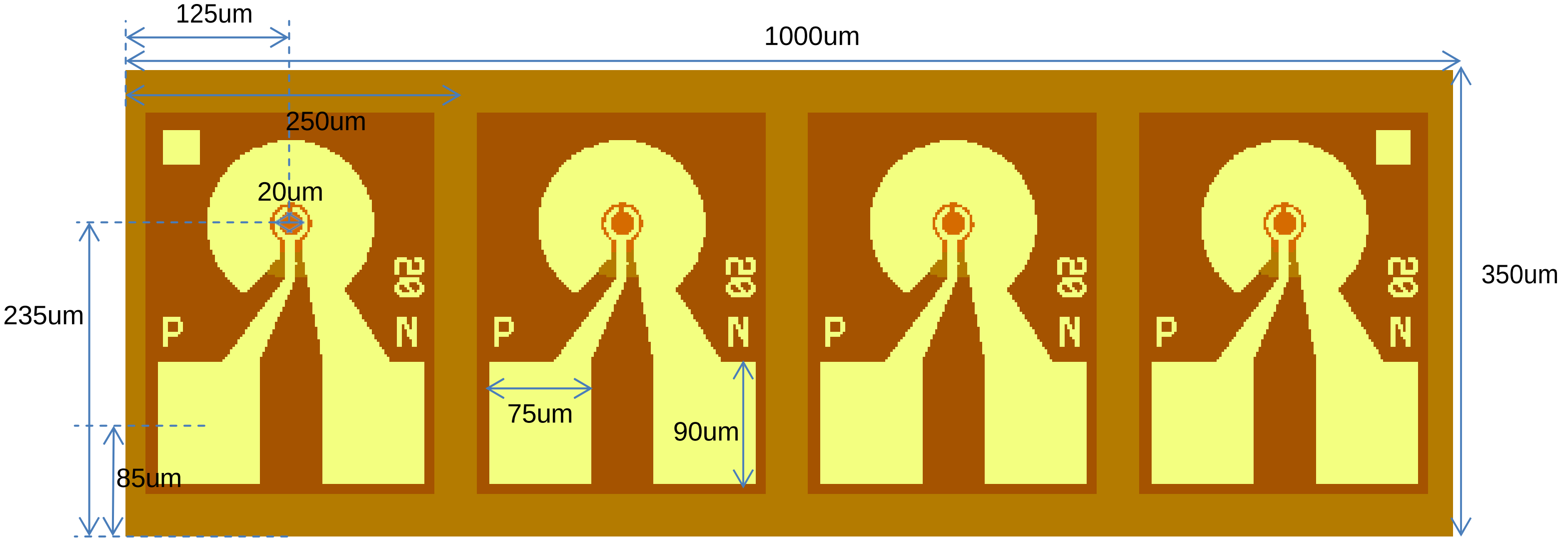
DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			20		µm	
Bonding pad size			75x90		μm^2	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		-	1000	-	µm	
Die pitch			250		Um	



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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.