



Known Good Die

25Gbps Long Wavelength InGaAs PIN PD

P/N: D0435_20um_C3 (1x4 array)

DATASHEET

Introduction

The D0435_20um_C3 products are high-performance front side illuminated InGaAs PIN photodiode arrays that feature low capacitance, high responsivity, low dark current and excellent reliability. Designed with a 20µm detection window and 500um 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.



Key Features

- 20µm detection window for better optical alignment
- Excellent low dark current and capacitance
- -40C to 85C operation range
- Front-side contact pads for flexible wire bonding
- Data rate up to 25Gbps/channel
- Highly robust 4" GaAs IC wafer fab with fast cycle-time
- Deliverable with 100% testing and inspection
- RoHS compliant

Applications

- 100G QSFP-LR

SPECIFICATIONS (T=25C)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V	-	30*	-	GHz	With TIA
Wavelength range		910	1310/1550	1650	nm	
Capacitance	-5 V	-	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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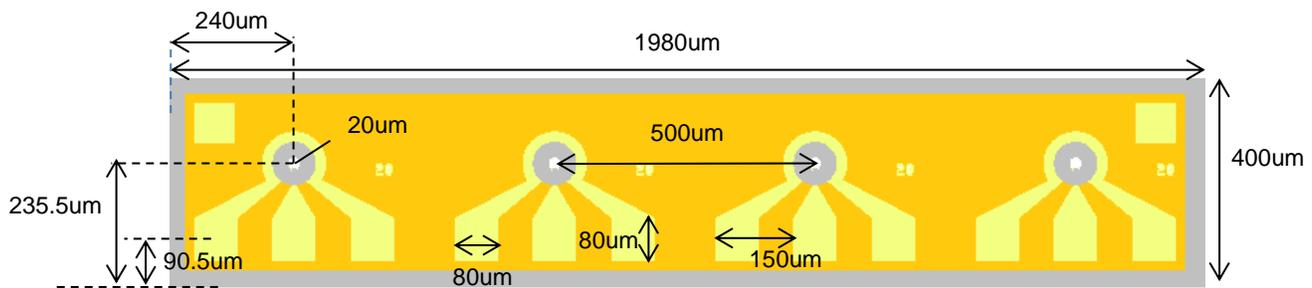
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DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window		-	20	-	μm	
Die pitch		-	500	-	μm	
Bonding pad size		-	80x80	-	μm ²	Ground pads
Metal height of bond pad		1.4	1.6	-	μm	Au metal
Die height		140	150	160	μm	
Die width		390	400	410	μm	
Die length			1980		μm	

BONDING PAD CONFIGURATION



P/N: DO435_20um_C3_1x4

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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