



Known Good Die

56 Gbaud Long Wavelength InGaAs PIN PD

P/N: DO519_16um_C3_1x4

DATASHEET



Introduction

The DO519_16um_C3_1x4 product is a high-performance front-side illuminated InGaAs PIN photodiode array chip with low capacitance, high responsivity, low dark current and proven excellent reliability. Featuring a 16µm detection window, 750um diode-to-diode pitch and GSG bonding pads, this product is designed for long wavelength optical receiver applications with data rates up to 50Gbps at wavelengths from 1200nm to 1600nm with single mode fiber.

Key Features

- Excellent low dark current and capacitance
- -40C to 85C operation range
- 16µm optical detection window for better optical alignment
- Front-side contact pads for flexible wire bonding
- Data rate up to 50Gbps/channel
- 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

- 200G/400G

SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V		36*	-	GHz	*with TIA
Wavelength range		910	1310/1550	1650	nm	
Capacitance	-5 V, 1 MHz		0.065	0.08	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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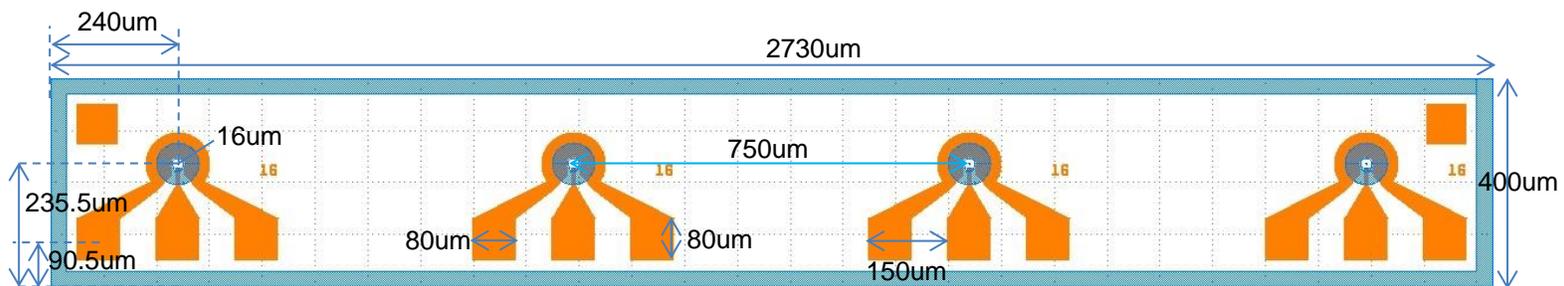


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DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			16		μm	
Bonding pad size			80x80		μm^2	Signal & Ground pads
Metal height of bond pad		1.4	1.6	1.8	μm	Au metal
Die height		140	150	160	μm	
Die width		390	400	410	μm	
Die length		-	2730	-	μm	
Diode pitch			750		μm	

BONDING PAD CONFIGURATION



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Attention: Handle with care. InP is 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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