

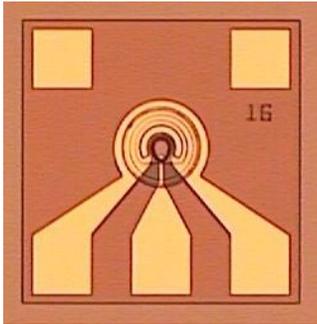
56GBaud 1310nm /1550nm InGaAs PIN PD

P/N: DO480_16um_C3_NH



Known Good Die

PRELIMINARY DATASHEET



Introduction

The DO480_16um_C3_NH product is a high performance front-side illuminated InGaAs PIN photodiode chip that features low capacitance, high responsivity, and low dark current with proven excellent reliability. This product has a 16 μ m detection window and 36-40 GHz 3-dB bandwidth with optimized TIA. It is suitable for up to 56 GBaud PAM4 optical communications operating at 1310nm or 1550nm with single mode fiber. The product dimensions are tailored for integration with a pre-amplifier in non-hermetic packages.

Key Features

- Mesa structure with 16 μ m optical detection window
- Top-sided 50 Ω coplanar GSG contact pads with SI substrate
- Excellent low dark current and capacitance
- -40C to 85C operation range
- Low cost 4" wafer manufacturing with fast cycle-time
- Deliverable in GCS Known Good Die™ with 100% testing and inspection
- Customized layout dimensions available
- RoHS compliant

Applications

- IEEE 100 Gigabit Ethernet

SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V		36*	-	GHz	*with TIA
Wavelength range		910	1310/1550	1650	nm	Default ARC is 1310nm
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

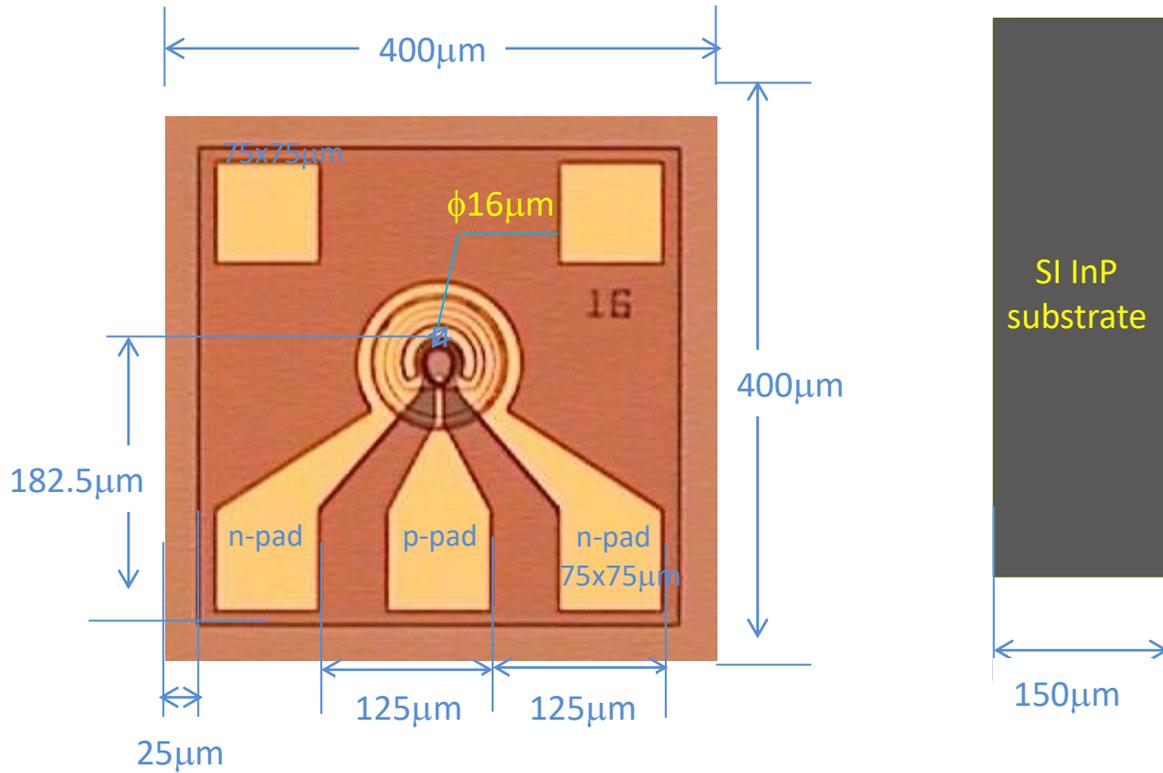
Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-40C to 125C
Soldering Temperature	260C / 10 sec

Global Communication Semiconductors, LLC

23155 Kashiwa Court, Torrance, CA 90505
Tel: (310) 530-7274 Fax: (310) 517-8200 e-mail: info@gcsincorp.com
www.gcsincorp.com

DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			16		μm	
Bonding pad size			75x75		μm	for both p- and n- pads
Metal height of bond pad		1.4	1.6	1.8	μm	Au metal
Die height		140	150	160	μm	
Die width		380	400	420	μm	
Die length		380	400	420	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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