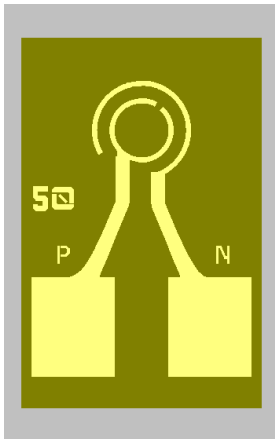


14Gbps GaAs PIN Photodiode & Array

P/N: DO305_50um_G14 (single) & DO305_50um_G14_1x4 (array)



Known Good Die



Introduction

DATASHEET

These high performance products are front side illuminated GaAs PIN photodiode arrays that feature low capacitance, high responsivity, and extreme low dark current with proven excellent reliability in field. These products have 50µm detection window, and are primary designed to meet the performance requirements for 14Gbps short range optical data communication, with its chip dimensions specially tailored to meet the packaging requirement for 14Gbps FDR InfiniBand operating at 850nm with multi-mode fibers. Single diode and multiples of 1x4 arrays are both provided.

Key Features

- Mesa structure with 50µm optical detection window
- Excellent low dark current and capacitance
- -40C to 85C operation range
- Suitable for non-hermetic package
- Customization for single die and array configuration
- Highly robust 4" GaAs IC wafer fab with fast cycle-time
- Deliverable with 100% testing and inspection
- RoHS compliant

Applications

- 14G FDR InfiniBand

SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3V	-	14	-	GHz	
Wavelength range		760	850	860	nm	
Capacitance	-3 V	-	0.16	-	pF	
Responsivity	@850 nm	0.5	0.6	-	A/W	
Dark current	-3V	-	<0.1	0.3	nA	
Reverse Breakdown	-20V	-	-	1	µA	

ABSOLUTE MAXIMUM RATING

Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-55C to 125C
Forward Current	10mA

Global Communication Semiconductors, LLC

23155 Kashiwa Court, Torrance, CA 90505

Tel: (310) 530-7274 Fax: (310) 517-8200 e-mail: info@gcsincorp.com

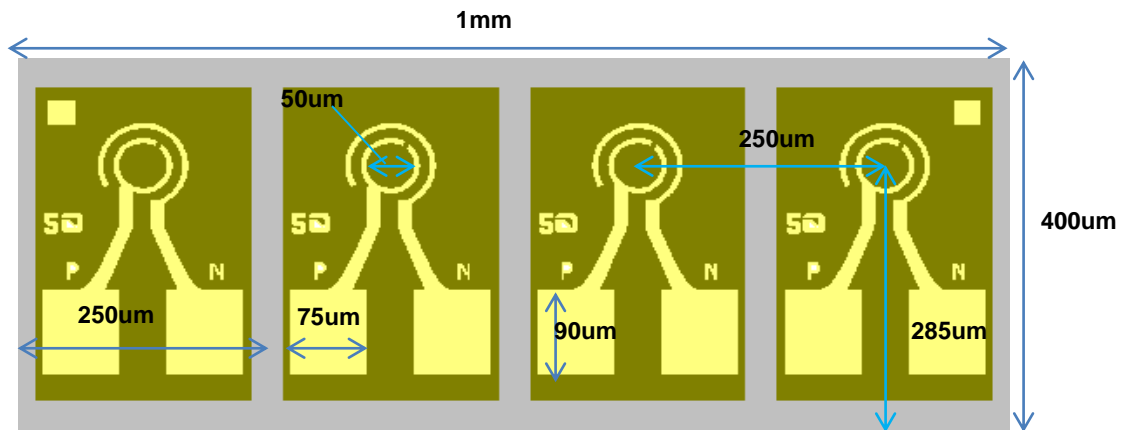
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DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window		-	50	-	μm	
Die pitch		-	250	-	um	
Bonding pad size		-	75x90	-	μm ²	for both p- and n- pads
Die height		140	150	160	μm	
Die width		390	400	410	μm	
Die length			1		mm	For 1x4 Array
			2		mm	For 1x8 Array
			3		mm	For 1x12 Array

BONDING PAD CONFIGURATION



Attention: GaAs 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. ■

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