25Gbps Long Wavelength InGaAs PIN PD

P/N: DO311_20um_C3 (1x4 array)

DATASHEET

Introduction

The DO311_20um_C3_1x4 product is a high-performance front side illuminated InGaAs PIN photodiode array with low capacitance, high responsivity, low dark current and proven excellent reliability. Designed with a 20µm detection window and 750um die-to-die pitch, these products are tailored for long wavelength optical receiver applications with date rates up to 25Gbps at wavelengths from 1200nm to 1600nm with single mode fiber.

Key Features

- Excellent low dark current and capacitance
- -40C to 85C operation range
- 20µm detection window for enhanced optical alignment
- Front-side contact pads for flexible wire bonding
- Date rate up to 25Gbps/channel
- Highly robust, low-cost 4" IC wafer FAB with fast cycle-time
- Deliverable in GCS Known Good Die™ with 100% testing and inspection
- RoHS compliant

Applications

- 100G QSFP-LR

SPECIFICATIONS (T=25C)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-3 V		22		GHz	
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

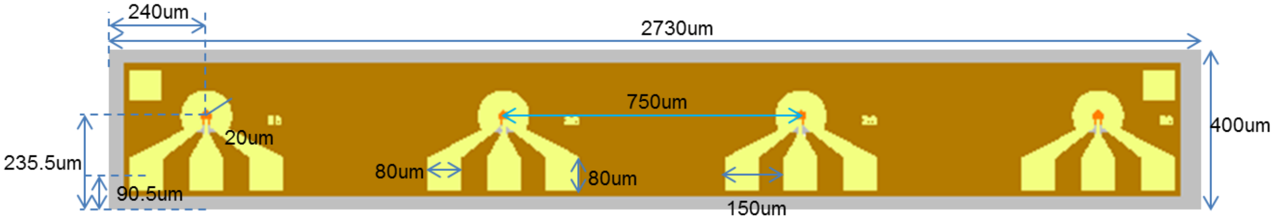
Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-55C to 125C
Soldering Temperature	260C / 10 sec

COPYRIGHT GLOBAL COMMUNICATION SEMICONDUCTORS LLC. ALL RIGHTS RESERVED.

DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window			20		µm	
Die pitch			750		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			2730		µm	

BONDING PAD CONFIGURATION



P/N: DO311_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.

COPYRIGHT GLOBAL COMMUNICATION SEMICONDUCTORS LLC. ALL RIGHTS RESERVED.