10Gbps DualBand InGaAs PIN Photodiode

P/N: DO122_60um_OUSB

GCS™ Known Good Die

DATASHEET

Introduction

This high-performance product is a front side illuminated InGaAs PIN photodiode chip that features a large 60µm detection window, and two large flexible wire-bonding pads. This product has low capacitance, high respsonsivity, low dark current and excellent reliability, with GCS proprietary design specially tailored for meeting the performance requirement for 10Gbps receiver for dual bands at 850nm and 1310nm used for Light Peak Optical USB application with a multi-mode fiber.

Key Features

- 10Gbps dualband receiver at 850nm and 1310nm
- 60µm optical detection window for better optical alignment
- Front-sided large contact pads for flexible wire bonding
- Low dark current and capacitance, high responsivity
- -40C to 85C operation range
- Highly robust 4-inch IC wafer fab with fast cycle-time
- Deliverable in GCS Known Good Die™ with 100% testing and inspection; Customer layout configuration available
- RoHS compliant

Applications

- 10Gbps dualband Light Peak Optical USB

SPECIFICATIONS (T=25C°)

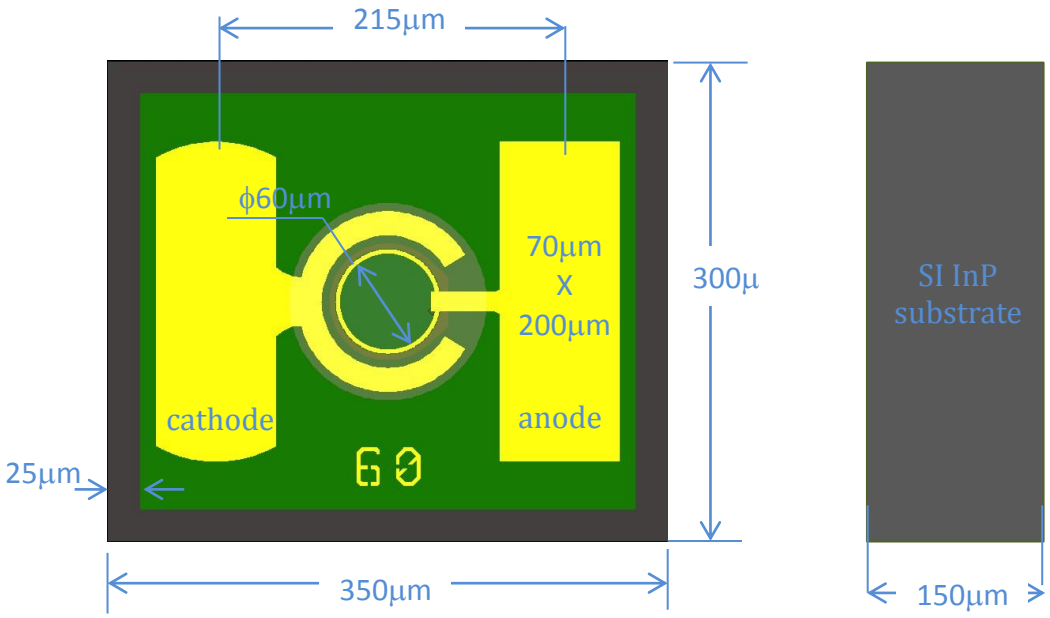
	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-5V	8	10	-	GHz	
Wavelength range		-	850/1310	-	nm	
Capacitance	-5 V	-	0.22	0.25	pF	
Responsivity	@1310 nm	0.85	-	-	A/W	
Responsivity	@850 nm	0.5	-	-	A/W	
Dark current	-5V	-	1	5	nA	
Reverse breakdown	-20V	-	-	1	µA	

Absolute Maximum Rating

Parameter	Rating
Operating Temperature	-40C to 85C
Storage Temperature	-55C to 125C
Soldering Temperature	260C / 10 sec
Forward Current	10mA
ESD Threshold (HBM)	100V to 150V

Dimensions

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window		-	60	-	µm	
Bonding pad size		-	70 x 200	-	µm	for both p- and n- pads
Die height		140	150	160	µm	
Die width		290	300	310	µm	
Die length		340	350	360	µm	



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Attention: InP brittle material and electrostatic sensitive device, observe precaution for handling.

Contact Information

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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.