

25Gbps 1310nm /1550nm InGaAs PIN PD

P/N: DO231_20um_C3



Known Good Die



Introduction

The DO231_20um_C3 product is a high performance front side illuminated InGaAs PIN photodiode chip that features low capacitance, high responsivity, and extremely low dark current with proven excellent reliability. This product has a 20 μ m detection window and is primarily designed for 25Gbps optical receivers operating at 1310nm or 1550nm with 9/125 μ m single mode fiber. The product dimensions are specifically tailored for integration with a pre-amplifier in a hermetic TO package.

Key Features

- Mesa structure with 20 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
- Highly robust 4" GaAs IC wafer fab with fast cycle-time
- Deliverable 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 | - | 30* | - | GHz | With TIA |
| Wavelength range | | 910 | 1310/1550 | 1650 | nm | |
| Capacitance | -5 V, 1 MHz | - | 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 |

Global Communication Semiconductors, LLC

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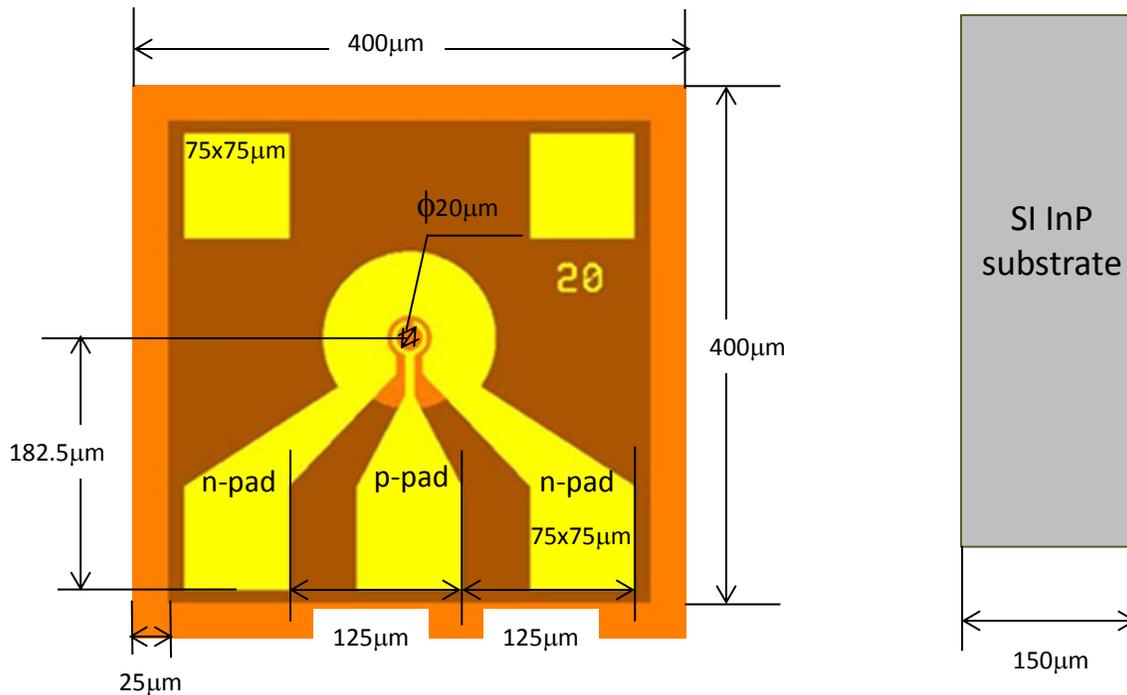
Tel: (310) 530-7274 Fax: (310) 517-8200 e-mail: info@gcsincorp.com

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DIMENSIONS

Made in USA

| | Conditions | Min. | Typical | Max. | Unit | Notes |
|--------------------------|------------|------|---------|------|------|-------------------------|
| Detection window | | - | 20 | - | μm | |
| Bonding pad diameter | | - | 75 | - | μm | for both p- and n- 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 | | 390 | 400 | 410 | 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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