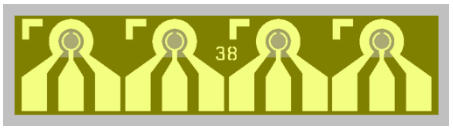
25Gbps GaAs PIN Photodiode Array

P/N: DO396_38um_Q8 (1x4 Array)

Known Good Die



Introduction

The DO396_38um_Q8_1x4 product is a high performance front side illuminated GaAs PIN photodiode array that features low capacitance, high responsivity, and extremely low dark current with proven excellent reliability. This product has a 38µm detection window. Primarily designed to meet the performance requirements for 25Gbps short range optical data communication, the product chip dimensions are specially tailored to meet the packaging requirement for 25Gbps/channel module or Active Optical Cable (AOC) receiver operating at 850nm.

Key Features

- Excellent low dark current and capacitance
- -40C to 85C operation range
- Suitable for non-hermetic package
- Different pad sequence available
- Highly robust 4" GaAs IC wafer fab with fast cycle-time
- Deliverable with 100% testing and inspection
- RoHS compliant

Applications

- 25Gbps AOC (Active Optical Cable) receiver at 850nm
- 25G SFP+
- 4x25G QSFP

SPECIFICATIONS (T=25C°)

	Conditions	Min.	Typical	Max.	Unit	Notes
Bandwidth	-2V	-	20	-	GHz	
Wavelength range		760	850	860	nm	
Capacitance	-2V	-	0.15	0.17	pF	
Responsivity	@850 nm	0.5		0.6	A/W	
Dark current	-2V	-	<0.1	0.3	nA	
Reverse Breakdown	-20V	-	-	1	µA	

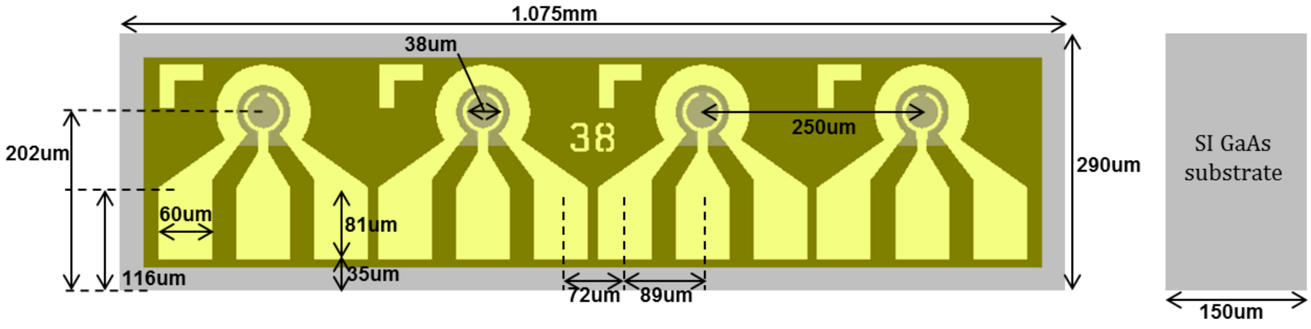
ABSOLUTE MAXIMUM RATING

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

DIMENSIONS

	Conditions	Min.	Typical	Max.	Unit	Notes
Detection window		-	38	-	µm	
Die pitch		-	250	-	um	
Bonding pad diameter		-	60x81	-	µm^2	for both p- and n- pads
Die height		140	150	160	µm	
Die width		280	290	300	µm	
Die length			1.075		mm	For 1x4 Array

BONDING PAD CONFIGURATION



P/N: DO396_38um_Q8_1x4

Attention: 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.