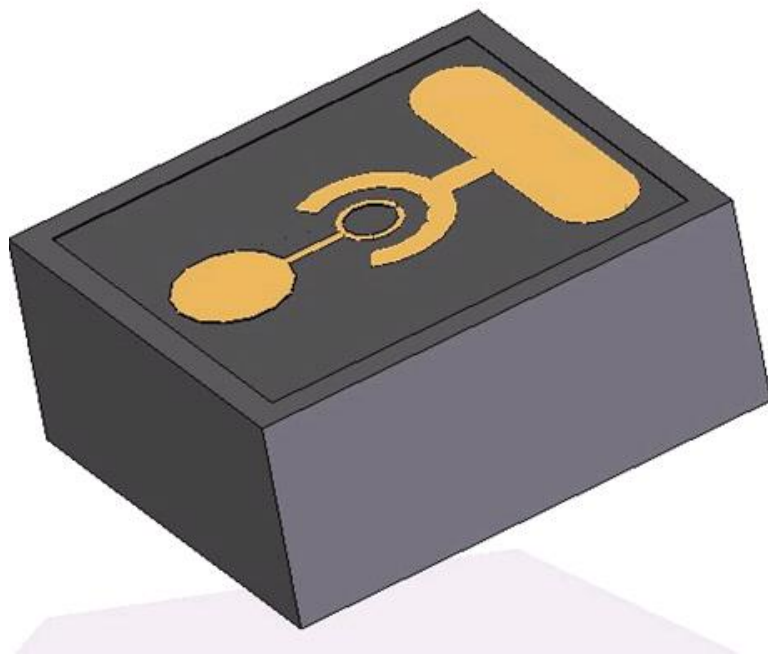


InGaAs 10G PIN PD Chip

SPECIFICATION



Contents

General Description 3

Absolute Maximum Ratings 3

Electro-Optical Characteristics 3

Structure 4

Other Requirements 4

General Description

This InGaAs/InP PIN photodiode (PIN PD) chip was designed for 10Gbps optical communication use. It has a low dark current, low capacitance and high responsivity. Using this chip an optical receiver with a high sensitivity can be achieved.

Features

- Operation at 1000~1650nm
- Low dark current
- Low capacitance
- Linear responsivity at 1310/1550nm
- Low cost

Applications

- 2.5 / 5 / 6 / 9.953 / 10.3 / 11.3Gbps optical receiver for long-distance optical communication.

Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	10	V
Reverse current	I_R	3	mA
Operating temperature range	T_{OPR}	-40 to +85	°C
Storage temperature range	T_{STG}	-40 to +85	°C

Table 1. Absolute Maximum Ratings

Electro-Optical Characteristics (Tc=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Dark current	I_D	$V_R = 5 V$		1	10	nA
Capacitance	C_{PD}	$V_R = 5 V$		0.15	0.2	pF
Responsivity	R	$V_R = 5 V (1550nm)$	0.8	0.9		A/W
O/E bandwidth	BW			12		GHz
Operating range ¹⁾	λ	-	1.0	-	1.65	μm

1) The PIN PD chip can be operated at the wavelength range between 1.0 and 1.65 μm with different responsivity.

Table 2. Electro Characteristics

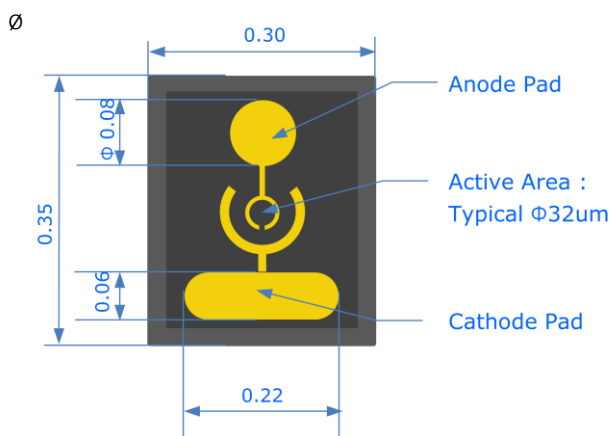
Structure

Dimension Parameter

Parameter	Symbol	Typ.	Unit
Light receiving area diameter	D	32	μm
Chip size	-	300×350	μm ²
Bonding pad diameter	-	80	μm
Chip thickness	t	150± 20	μm

Dimension

(unit: mm)



Top View



Side View

Other Requirements

Precautions for use

- 1) This device is susceptible to damage as a result of ESD(electrostatic discharge). Use of ground straps, anti static mats, and other standard ESD protective equipment is recommended when handling or testing an InGaAs PIN/APD or any other junction photodiode. Soldering temperature of the leads should not exceed 350°C for more than 3 seconds.

