



APDC-13A2G

2.5Gbps InGaAs Avalanche Photodiode Chip

Data Sheet



Overview

The APDC-13A2G is a 2.5Gbps InGaAs avalanche photodiode (APD) chip designed for high-sensitivity optical detection in fiber optic systems. Operating in the 1310nm and 1550nm wavelength bands, the APD chip provides high responsivity for efficient optical signal detection and supports data rates up to 2.5Gbps. Its compact chip-level configuration makes it suitable for integration into optical receivers and other high-performance fiber optic applications.

Features

- InGaAs avalanche photodiode (APD) chip
- High responsivity at 1310nm and 1550nm
- Data rate support up to 2.5Gbps
- High-sensitivity optical detection
- Optimized for fiber optic applications

Applications

- Fiber optic communication
- High-sensitivity optical receivers
- Optical signal detection
- High-speed optical communication systems
- Optical networking and transmission systems

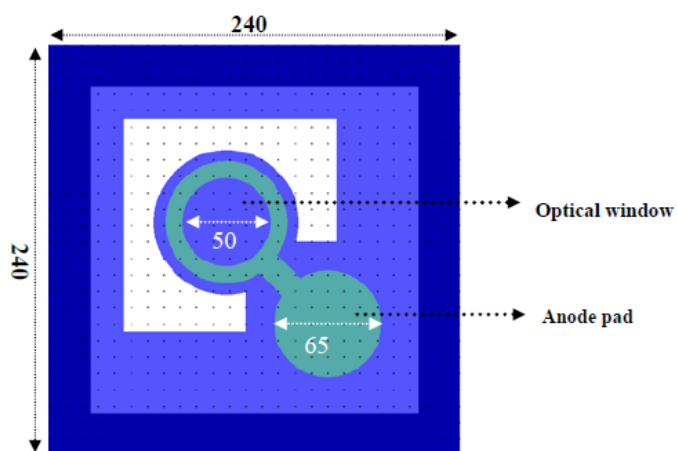
Absolute Maximum Ratings

Parameters	Min.	Max.	Unit	Conditions
Storage temperature	-40	100	°C	
Operating temperature	-40	85	°C	
Reverse current		5	mA	
Forward current		10	mA	
Optical Power		2	mW	

Electro-Optical Characteristics

Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	ϕ		50		um	
Responsivity	R	0.9 0.8			A/W	M=1, $\lambda=1550\text{nm}$ @ 25°C M=1, $\lambda=1310\text{nm}$ @ 25°C
Dark current	I_D		10	50	nA	$V_{BD}=3V$
Breakdown voltage	V_{BD}	35		50	V	$I_R = 10\mu A$
V_{BD} temperature coefficient	$\Delta V_{BD}/\Delta T$		0.1		V/°C	
APD gain	Gain		9			$V_{BD}=3V$, $P_o=1\mu W$, $\lambda=1550\text{nm}$
Capacitance	C		0.32	0.4	pF	$V_{BD}=3V$, $f=1\text{MHz}$
Bandwidth	BW		2.5		GHz	$V_{BD}=3V$

Outline Diagram



- Chip size: 240μm x 240μm typical
- Chip thickness: 150μm ±12.5μm
- Sensitive area: Typical 50μm in diameter

Note: Specifications are subject to change without notice.