



APDC-13A10G

10Gbps InGaAs Avalanche Photodiode Chip

Data Sheet

Overview

The APDC-13A10G is a 10Gbps front-side illuminated InGaAs avalanche photodiode (APD) chip designed for high-sensitivity optical detection in fiber optic systems. Optimized for operation at 1310nm and 1550nm, it provides high responsivity for efficient optical signal detection and supports data rates up to 10Gbps. Its chip-level configuration is well suited for integration into high-speed optical receivers and other fiber optic applications requiring sensitive and reliable optical detection.

Features

- Front side illuminated InGaAs Avalanche photodiode chip
- High responsivity at 1310nm/1550nm
- Data rate up to 10Gbps
- High sensitivity application
- Optimized for fiber optic applications

Application

- 10Gbps fiber optic communication
- High-speed optical receivers
- High-sensitivity optical detection
- 1310nm / 1550nm fiber optic systems
- Optical networking and transmission systems
- High-speed data communication systems

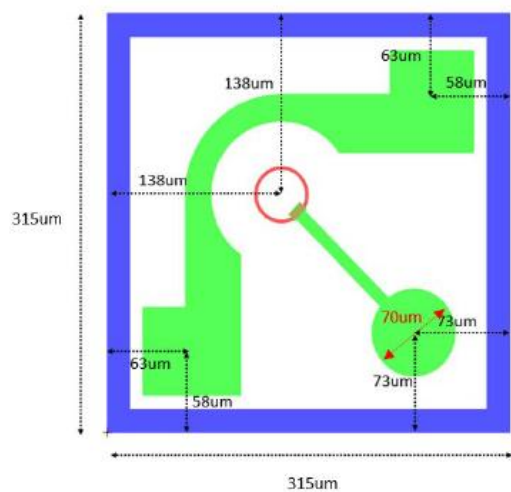
Absolute Maximum Ratings

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

Electro-Optical Characteristics

Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Active diameter	ϕ		45		um	
Responsivity	R		0.85		A/W	M=1, λ =1550nm
			0.75			M=1, λ =1310nm
Dark current	I_D		35	100	nA	V_{BD} -3V
Breakdown voltage	V_{BD}	33	38	43	V	$I_R = 10\mu A$
V_{BD} temperature coefficient	$\Delta V_{BD}/\Delta T$		0.03		V/°C	
APD gain	Gain	8	10			V_{BD} -3V, $P_o=1\mu W$, $\lambda=1550nm$
Capacitance	C		0.19	0.23	pF	V_{BD} -3V, f=1MHz
Bandwidth	BW		7.5		GHz	V_{BD} -3V

Outline Diagram



- Chip size: 315μm x 315μm typical
- Chip thickness: 220μm ±15μm
- Sensitive area: Typical 45μm in diameter

Note: Specifications are subject to change without notice.