

# InGaAs Avalanche Photodiode (APD)

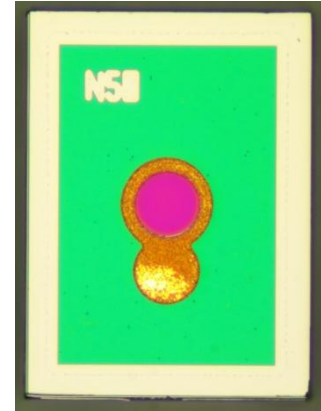
PDAF0055C

## Applications

G-PON / Ge-PON  
Long Haul Receivers  
SONET OC-48/SDH STM-16 Transmission System

## Features

Planer Structure for High Reliability  
1000 to 1625nm Spectral Response  
Low Dark Current



## Description

Go!Foton PDAF0055C Series are InGaAs APD chip. It is front illuminated type and planer structure with 55 um active area diameter. It is suitable for 2.5 Gbps application in G-PON / GE-PON. APD chip is fabricated at Go!Foton proprietary wafer fab.

## Specifications

### Electro-Optical Characteristics

Parameter	Min	Typ	Max	Conditions
Active Area Diameter ( $\mu\text{m}$ )		55		
Breakdown Voltage (V)	40	50	55	100 $\mu\text{A}$
Responsivity (A/W)	0.80	0.96		1.55 $\mu\text{m}$ , M=1
Dark Current (nA)		1	10	0.9V <sub>br</sub> , 25 °C
Capacitance (pF)			0.9	1MHz, M=10
Frequency Response (GHz)	1.5			M=8 RL=50 $\Omega$
Punch-through Voltage (V)	15		Vbr-10	See below
Temperature Coefficient of Vb (%/°C)	0.1	0.15	0.25	

1) Condition unless noted; 25°C, Pout =1uW

2) Punch-through voltage is defined as voltage where 1.5V above the voltage where the first deviation of IV curve under illumination shows local maximum.

3) Responsivity at punch-through voltage is defined as responsivity at M=1



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## Absolute Maximum Rating

Parameter	Min	Typ	Max
Reverse Current (mA)			1
Forward Current (mA)			1
Maximum Input Power (mW)			1.0
Operating Temperature (°C)	-40		85
Storage Temperature (°C)	-40		85

Operational or storage beyond these absolute maximum ratings causes permanent damage to the device.

## Drawing (PDAF0055C)

