0.95-1.65um InGaAs Avalanche Photodiode in Ceramic Package
APD-CS916200

Data Sheet

Description

The APD-CS916200 is a planar InGaAs avalanche photodiode (APD) housed in a compact and reliable 6CLCC ceramic package. It provides high responsivity across 0.95–1.65 μm, making it well-suited for near-infrared and short-wave infrared (SWIR) detection. With a ≥700 MHz 3dB bandwidth, low leakage current, and low noise characteristics, the device delivers excellent performance in demanding optical applications such as LIDAR, optical communication, and precision sensing.

Features

- InGaAs avalanche photodiode (APD) in 6CLCC ceramic package
- Highly reliable planar device
- High responsivity in 0.95–1.65 μm
- ≥700 MHz 3dB bandwidth
- Low leakage current and noise
- Low stray absorption

Applications

- Light Detection and Ranging (LIDAR)
- Fiber optic communication & testing
- Spectral analysis
- Optical coherence tomography (OCT)
- Single-photodiode SWIR cameras
- Covert IR sensing

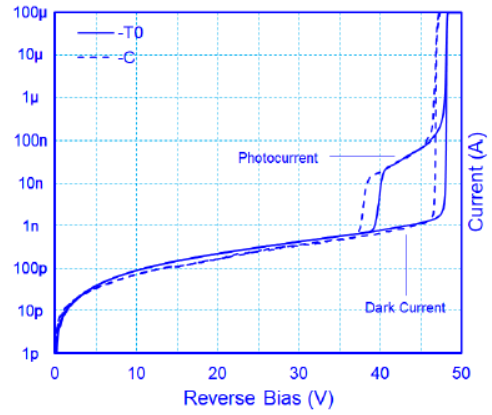
Specifications

Absolute Maximum Ratings				
Parameters	Symbol	Rating	Unit	Conditions
Reverse current	I_R	1	mA	
Forward current	I_F	5	um	
Operation temperature	T_{op}	-40 to 85	°C	
Storage temperature	T_{stg}	-40 to 85	°C	

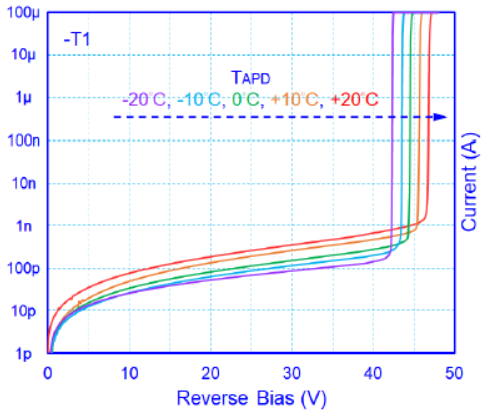
Electro-Optical Characteristics (T_a=23°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength spectral range	λ	0.95		1.65	um	
Aperture size			200		um	
Dark current	I_D		5	50	nA	M=10
Operating voltage	V_{op}	32		50	V	M=10
Breakdown voltage	V_{BD}	35		55	V	I_{BD}=100uA
Capacitance	C_J	-	2.5	3.0	pF	M=10, f=1MHz
Responsivity	I_L	8	9		A/W	M=10, λ=1.55um
Useable gain		10	20	-		λ=1.55um
3dB bandwidth (f_{3dB})		0.7	0.85		GHz	M=10, λ=1.55um
Spectral noise current		-	0.5	1.5	pA/√Hz	M=10, Δf=1kHz
Temperature coefficient of V_{BD}		-	0.10	0.15	V/°C	

Typical Characteristics

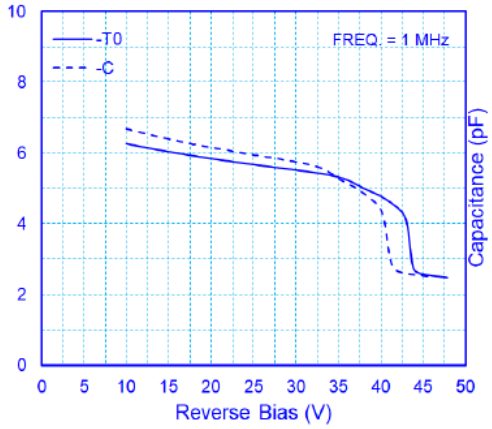
Dark- / Photo-Current



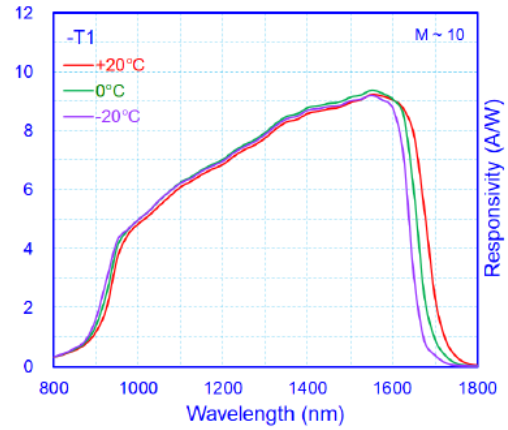
Dark Current



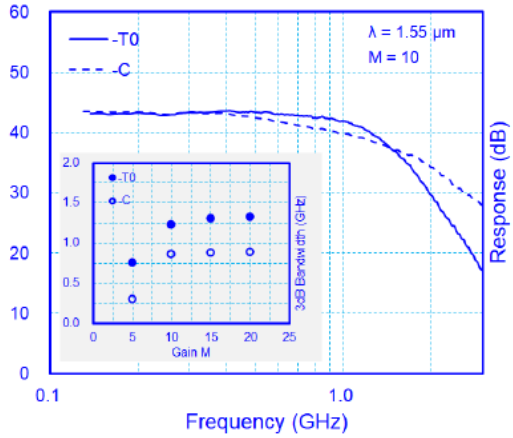
Dark Capacitance



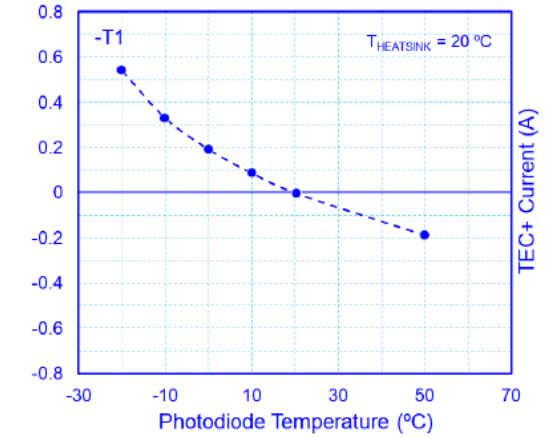
Responsivity Spectrum



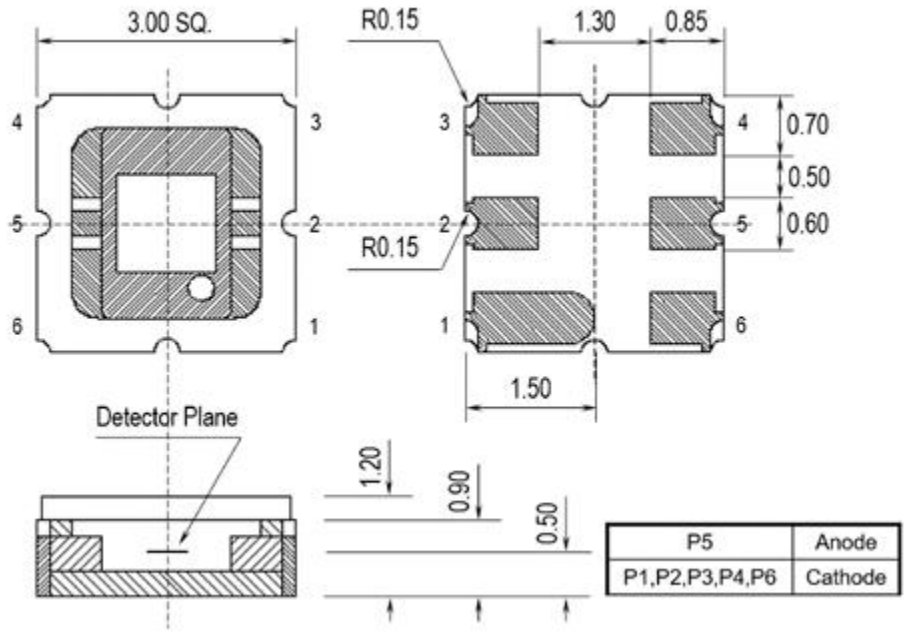
Frequency Response



TEC Performance



Outline Dimensions (unit: mm)



Note: Specifications are subject to change without notice.