



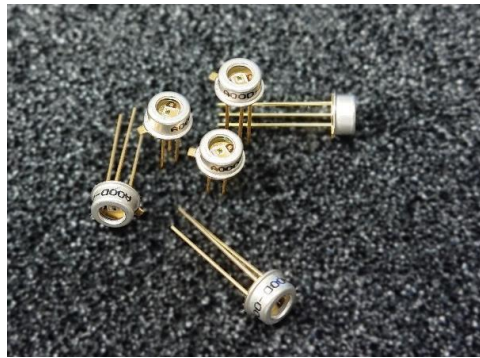
APD0200-17-TO InGaAs Avalanche Photodiode

FEATURES

- Highly Reliable Planar Device
- TO-46 Package
- High Responsivity in 0.95 – 1.65 μm
- Low Leakage Current and Noise
- $\geq 800\text{-MHz}$ 3dB Bandwidth
- Low Stray Absorption

APPLICATIONS

- Light Detection and Ranging (LIDAR)
- Fiberoptic Communication/Testing
- Spectral Analysis
- Optical Coherence Tomography
- Single-Photodiode SWIR Detection
- Covert IR Sensing



GENERAL DESCRIPTIONS

PARAMETER	UNIT	VALUE
Spectral Range	μm	0.95 – 1.65
Aperture Size	μm	$\varnothing 200$
Package Type	---	TO-46 / 3P

ABSOLUTE MAXIMUM RATINGS

PARAMETER	UNIT	MIN.	MAX
Reverse Current	mA	---	1
Forward Current	mA	---	5
Ambient Temperature ¹	In Operation	$^{\circ}\text{C}$	-40 +85
	Storage	$^{\circ}\text{C}$	-40 +85

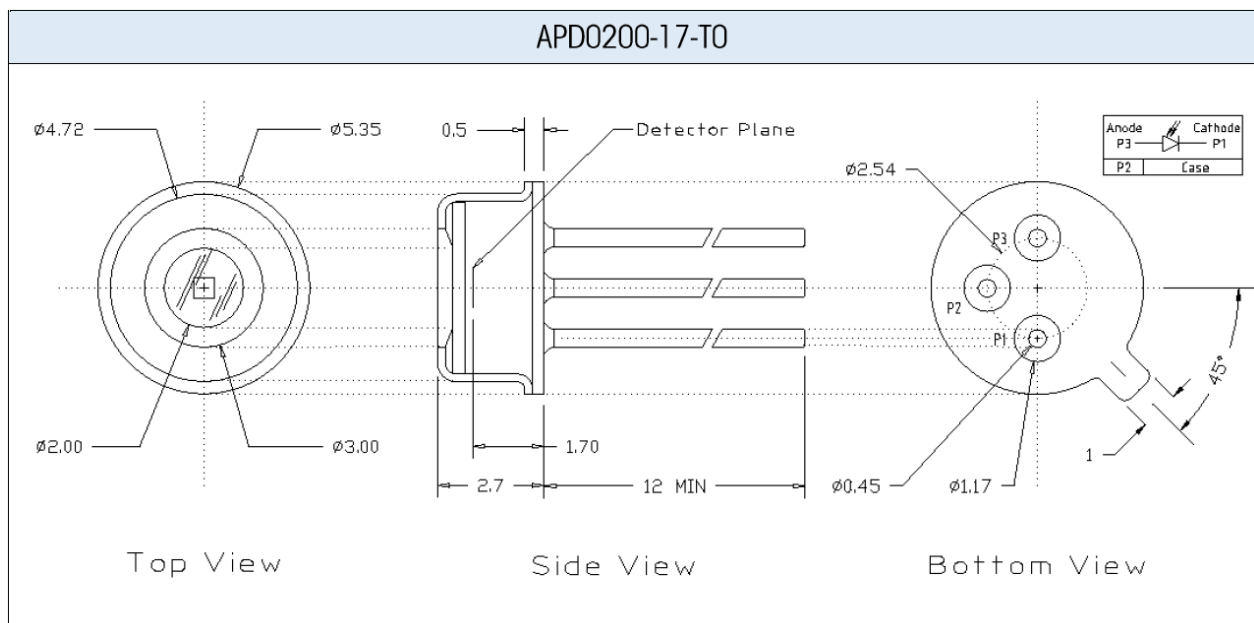
¹Non-condensing environment



SPECIFICATIONS ($T_{AMB} = 23^{\circ}\text{C}$)

PARAMETER	UNIT	MIN.	TYP.	MAX.	CONDITIONS
Dark Current	nA	---	5	50	$M = 10$
Operating Voltage (V_{OP})	V	32	---	50	$M = 10$
Breakdown Voltage (V_{BD})	V	35	---	55	$I_{BD} = 100 \mu\text{A}$
Capacitance	pF	---	2.5	3.0	$M = 10, f = 1 \text{ MHz}$
Responsivity	A/W	8	9	---	$M = 10, \lambda = 1.55 \mu\text{m}$
		0.8	0.9	---	$M = 1, \lambda = 1.55 \mu\text{m}$
Useable Gain	---	10	20	---	$\lambda = 1.55 \mu\text{m}$
3dB Bandwidth (f_{3dB})	GHz	0.8	1	---	$M = 10, \lambda = 1.55 \mu\text{m}$
Spectral Noise Current	$\text{pA}/\sqrt{\text{Hz}}$	---	0.5	1.5	$M = 10, \Delta f = 1 \text{ kHz}$

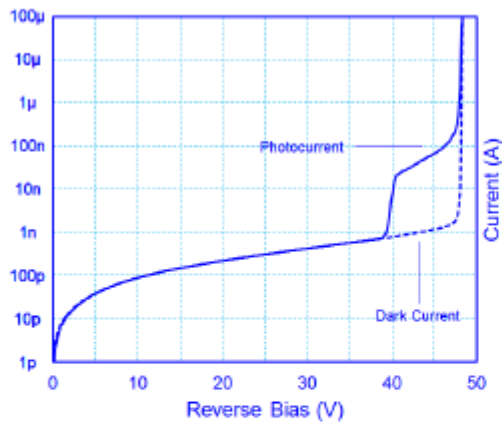
PACKAGE OUTLINE (UNIT: mm)



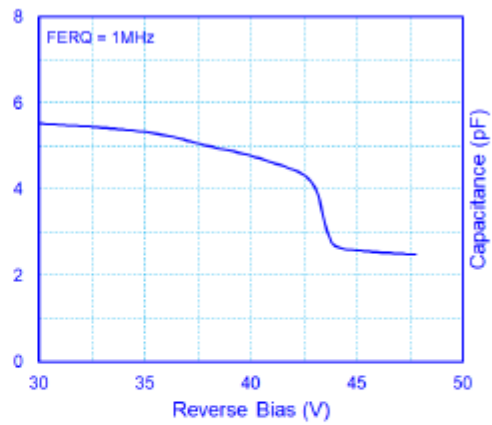


EXAMPLE CURVES ($T_{AMB} = 23^{\circ}\text{C}$)

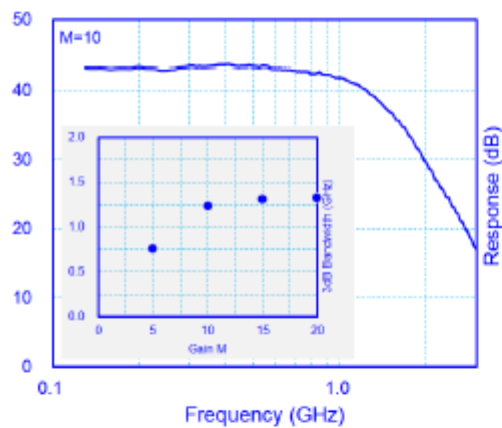
Dark- / Photo-Current



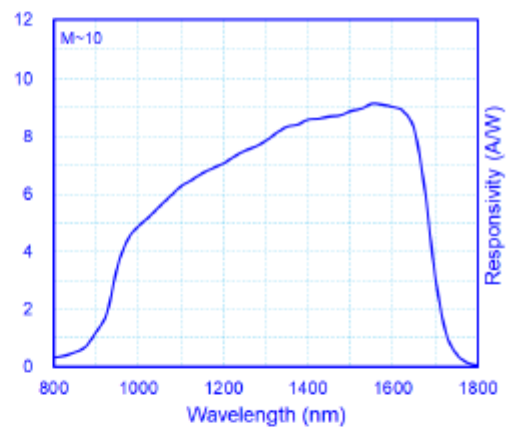
Dark Capacitance



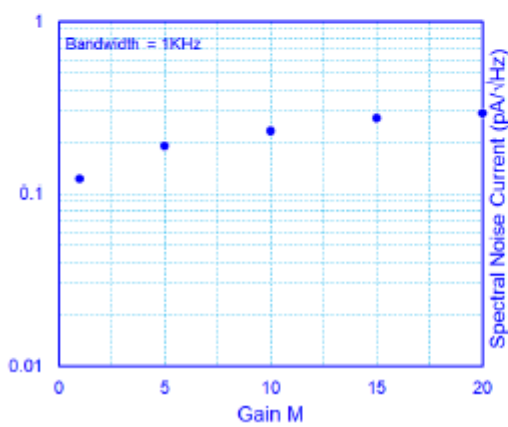
Frequency Response



Responsivity Spectrum



Spectral Noise Current



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