Large Area 1,7µm InGaAs Avalanche Photodiode

for Geiger Mode Operation, Single Photon Detection

IGA500-APD

0,5mm dia active area, 800nm – 1700nm

Stand 2026

Description

Our IGA500-APD is a large area 1,7µm InGaAs Avalanche Photodiode designed for Distance Measurement, Spatial light Transmission, Eye Safe Range Finder and Low Light Level Detection. Still its active area is large with 500 µm diameter. Our IGA500-APD provides a high responsivity and a seriously very low noise in the spectral range between 800nm and 1700nm with its spectral peak at 1550nm. The IGA500-APD chip is sealed in a modified TO46 package.

Features

* Top illumination planar APD
* Low Voltage Operation
* Very Low Dark Current
* Competitive Prices
* High Operational Frequency Range
* Large Active Area
* Spectral Range between 800nm - 1700nm
* Competitive Lead Times

Applications

* Distance Measurement
* Eye Safe Range Finder
* OTDR
* Spatial light Transmission
* Low Light Level Detection
* Optical Communication

Electro-Optical Characteristics & Specifications

T(ambient) @ +25°C

Parameter	Condition	Min	Typ	Max	Unit
Active area	dia		0,5		mm
Spectral Range	V_R 0V	800		1700	nm
Spectral Peak	V_R 0V		1550		nm
Responsivity	λ_p 1,55µm, Ev 1µW, M 10	9			A/W
Max Multiplication Gain	λ_p 1,55µm, Ev 1µW	20			factor
Response Time	f 1MHz, R_L 50Ω		1		ns
Dark Current	M 10		5	<100	nA
Reverse Breakdown Voltage	I_R 100µA, Ev 0Lx	40		60	V
Junction Capacitance	M 10, VR=V_{BR}*0,9, F 1M		10	15	pF
Operating Voltage			0,9*V_{BR}		V

Absolute Maximum Ratings

T(ambient) @ +25°C

Parameter	Condition	Min	Typ	Max	Unit
Forward Current		10			mA
Power Dissipation		50			mW
Operating Temperature		-50		+100	°C
Storage Temperature		-50		+125	°C

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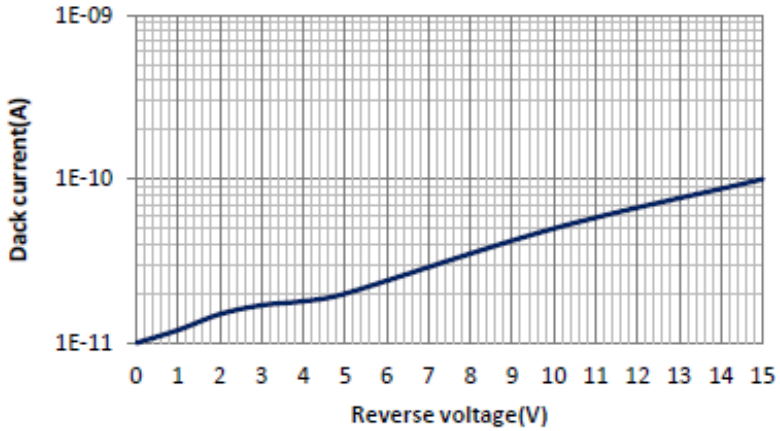
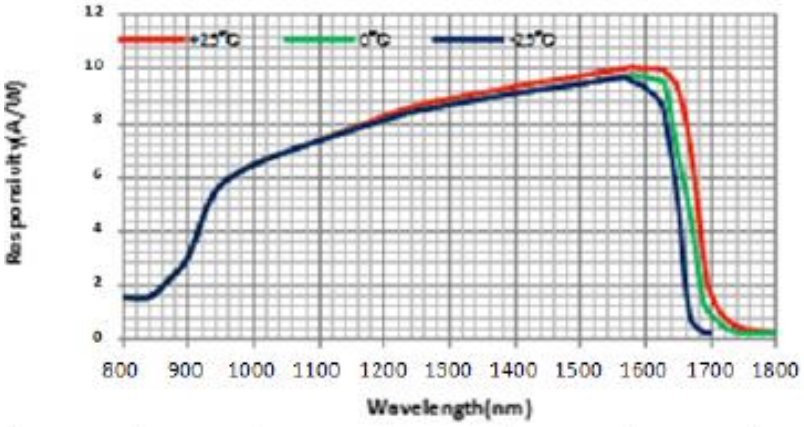
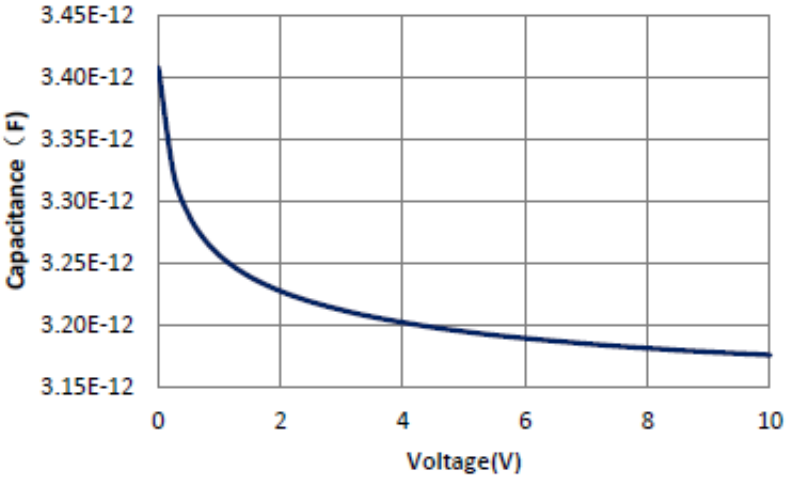
Dark Current vs Reverse Voltage



Spectral Response @ M 10



Junction Capacitance vs Bias Voltage



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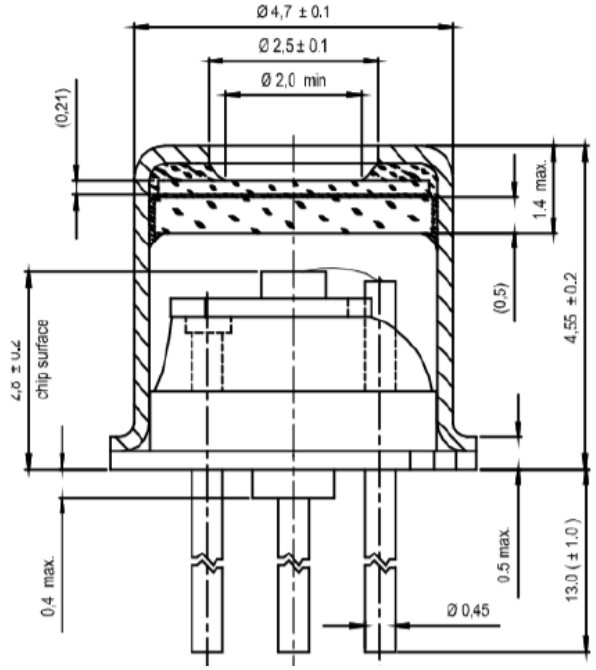
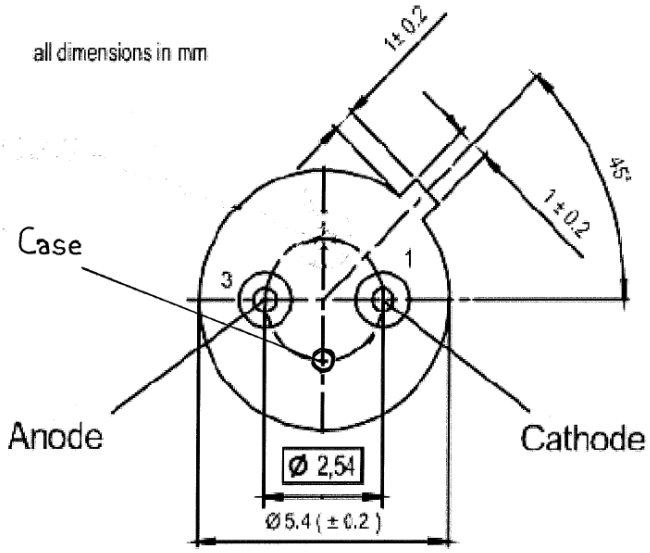
Package





Options

i.e. Single Mode Fibers Multi Mode Fibers TE-Cooler

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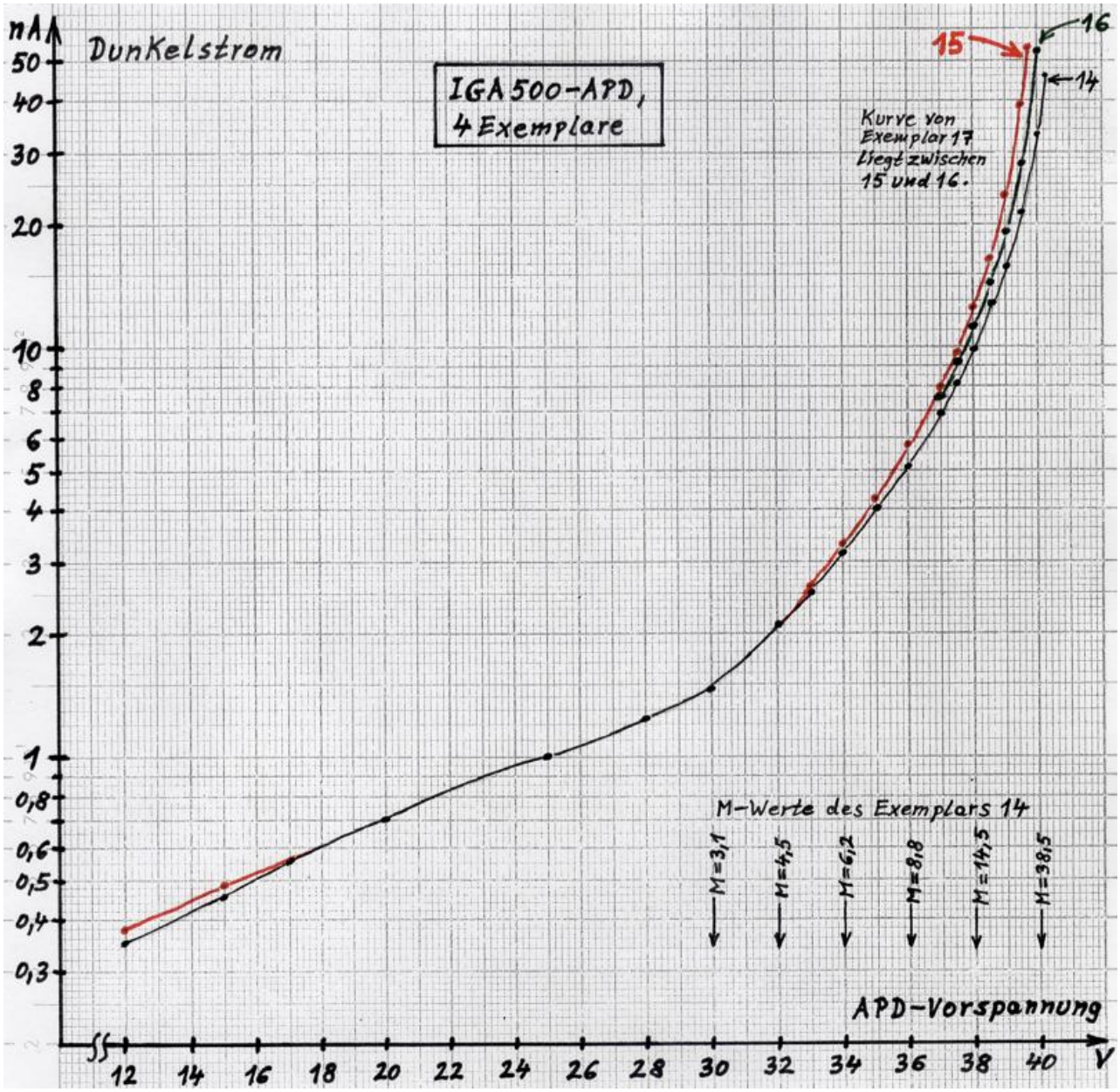
Test Data: 4 samples No 14, 15, 16, 17 **Dark-Current vs APD Bias Voltage**



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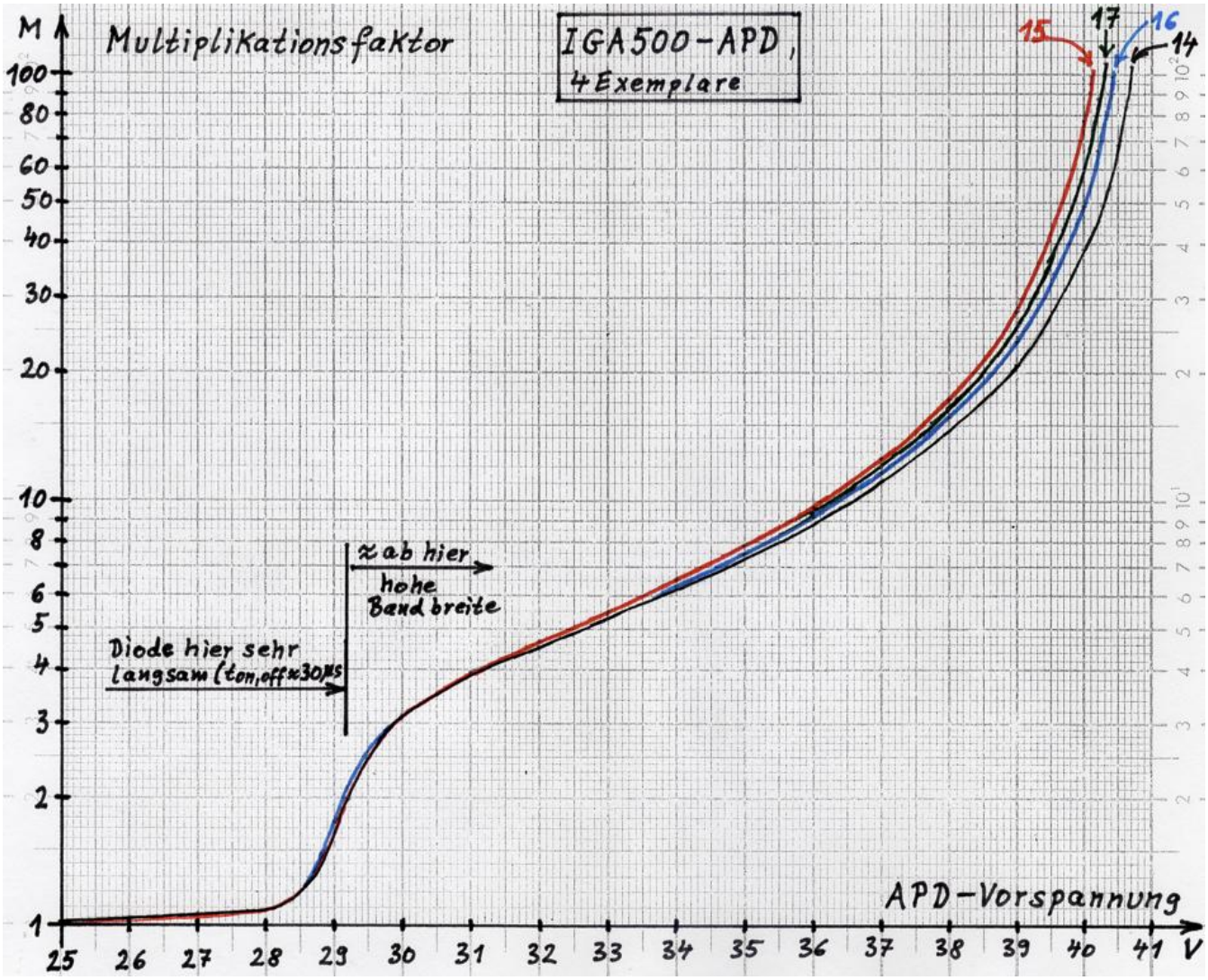
Test Data: 4 samples No 14, 15, 16, 17 **Multiplication Factor vs APD Bias Voltage**



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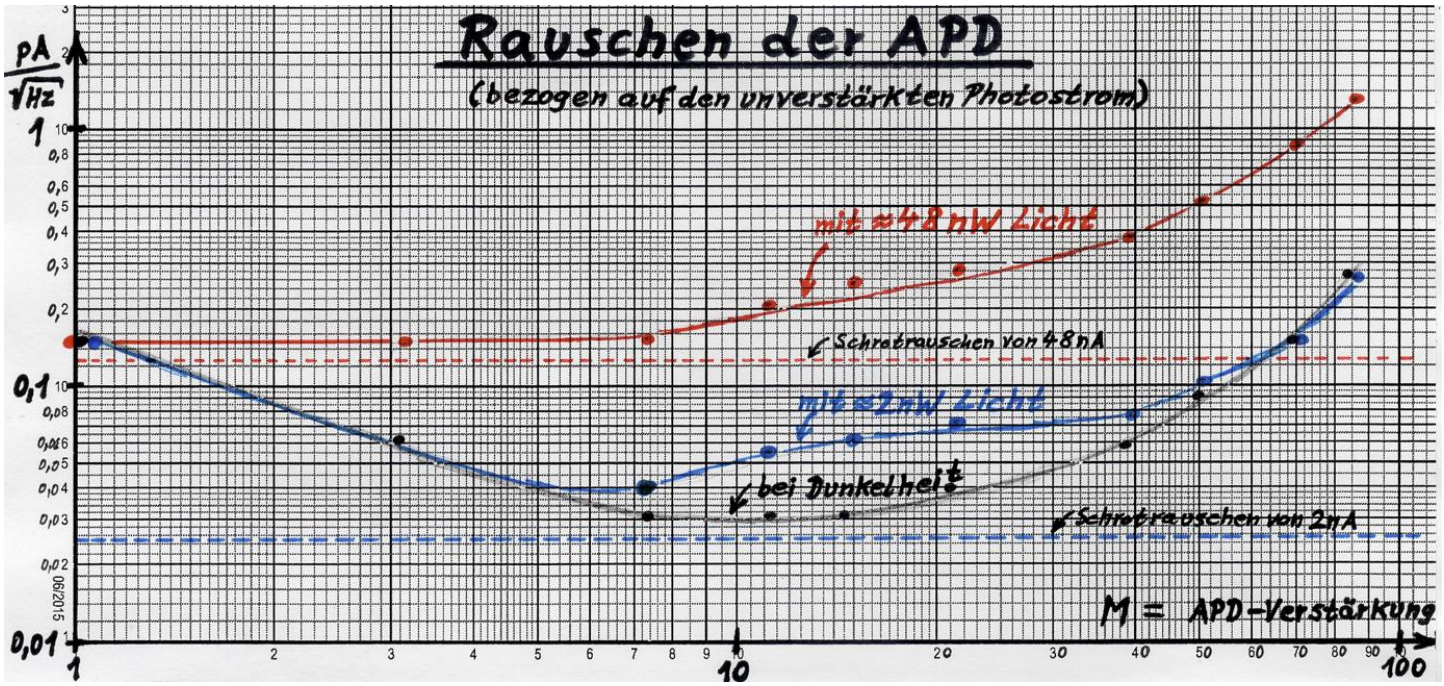
Test Data: 4 samples No 14, 15, 16, 17

APD Noise vs Multiplication Factor
@ Noise Band 30 – 100 KHz



The information in this data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omissions. The specifications are subject to change without notice.

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