

OTDR APD Pigtailed ROSA

WMNNG Series

Features

- InGaAs/InP avalanche photodiode
- Low dark current : Typical 0.5nA@0.98V_{BR}
- High reliability
- Coaxial module with single mode fiber or multimode fiber

Applications

- OTDR, Optical sensor
- Optical test instruments

Absolute Maximum Ratings ($T_C=25^{\circ}\text{C}$, unless otherwise specified)

Parameters	Symbol	Rating	Unit
Reverse voltage	V_R	V_{BR}	V
Operating temperature range	T_{OPR}	-40 to 85	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-40 to 85	$^{\circ}\text{C}$
Reverse current	I_{MAX}	2	mA
Forward current	I_F	10	mA
Lead soldering temperature	T_{sld}	360 (5sec.)	$^{\circ}\text{C}$

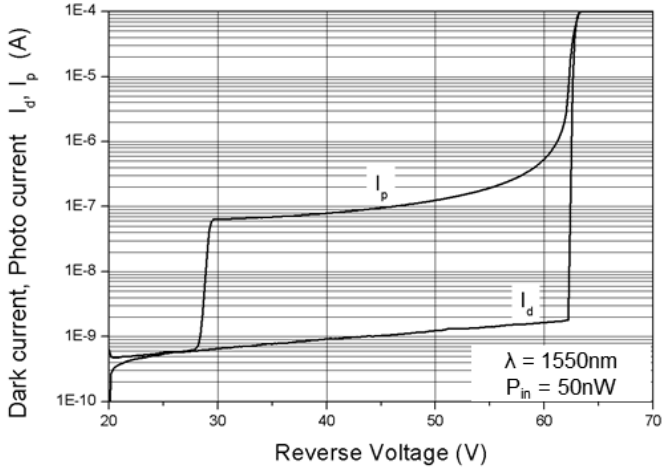
Electro-Optical Characteristics ($T_C=25^{\circ}\text{C}$, unless otherwise specified)

Parameters	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Optical Wavelength Range	λ	-	1250		1650	nm
Responsivity ¹⁾	R	M=1, $\lambda=1550\text{nm}$	-	1.0	-	A/W
Dark current	I_D	$V_{APD}=0.98V_{BR}$		0.5	5	nA
Breakdown Voltage	V_{BR}	$I_d=100\mu\text{A}$	40	55	70	V
Temperature Coefficient of V_{BR}	γ	-40 to 85°C		90		mV/ $^{\circ}\text{C}$
Excess noise factor	F	M=30		16		
	F	M=50		27		
Cut-off Frequency	F_C	M=8		4.5		GHz
Multiplication Factor	M	$V_{APD}=0.98V_{BR}$, $\lambda=1550\text{nm}$, $P_{in}=50\text{nW}$ (-43dBm)	15	25		
Optical return loss	ORL	1550nm	26			dB

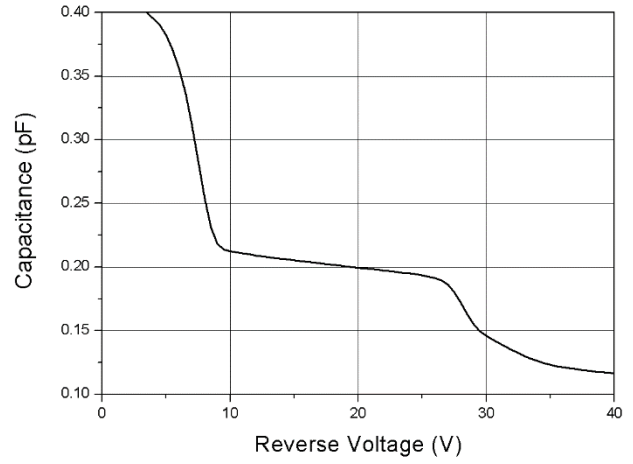
1) The responsivity is the calculated value. The unity gain voltage cannot be measured for this APD.

Typical Characteristics (T = 25 °C, unless otherwise specified)

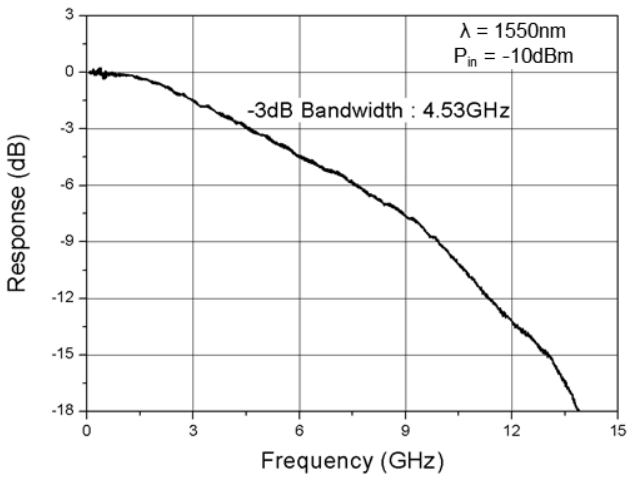
Dark current(I_d) and Photo current(I_p)



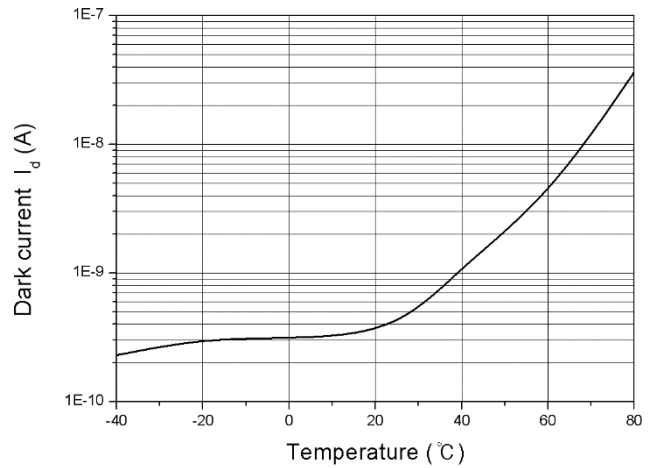
Capacitance



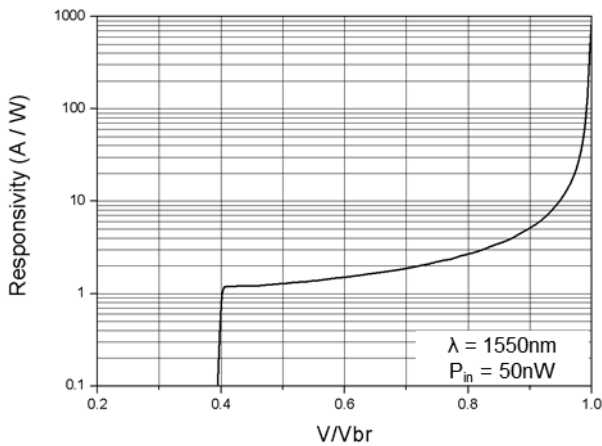
Bandwidth



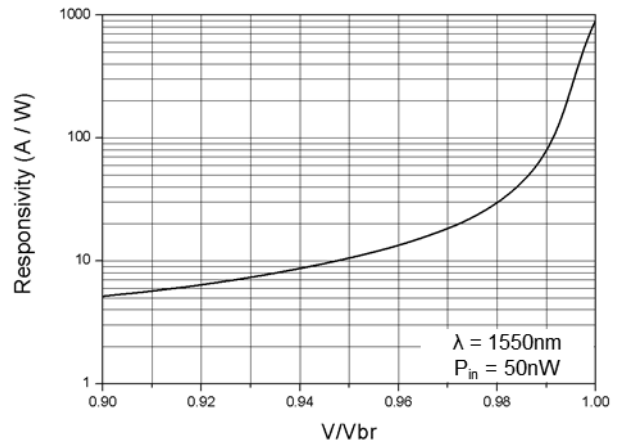
Temperature dependence of Dark current (@M=50)

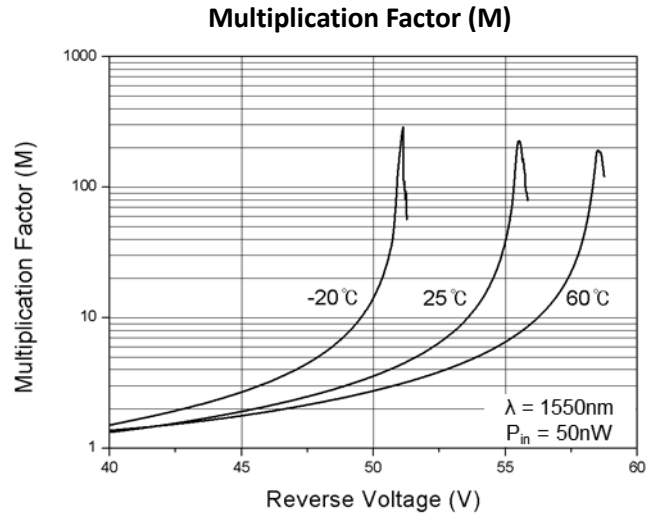
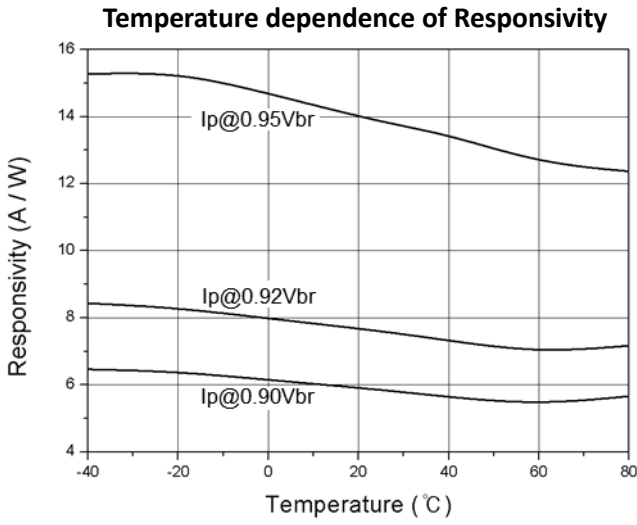


Responsivity



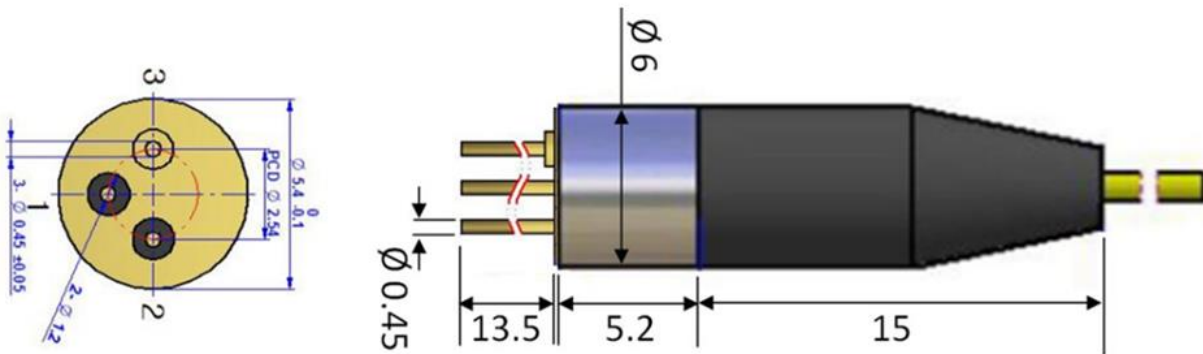
Magnified





Mechanical Specifications

Dimension and PIN configuration (unit: mm)



1. APD anode
2. APD cathode
3. Case(no connection)

Precaution to use

The WMNNG12-P3 is sensitive to electrostatic discharge (ESD) and should be handled with appropriate caution. Please use standard ESD protective equipment when handling this product.

Ordering information

Product Code	Available Fiber, Connector
WMNNG11-P3	SMF, Without Connector
WMNNG12-P3	SMF, with SC/PC
WMNNG14-P3	SMF, with SC/APC
WMNNG20-P3	SMF, with FC/PC
WMNNG26-P3	MMF50 μ m, without Connector
WMNNG35-P3	MMF62.5 μ m, with FC/PC Connector
WMNNG37-P3	MMF62.5 μ m, with FC/PC Connector

Specifications described here are subject to change without notice



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