

Wooriro IOPMS Series

**WOORIRO 2% TAP-PD MODULE
SPECIFICATIONS[Integration]**



Contents

General Description 2

Absolute Maximum Ratings 2

Electro-Optical Characteristics 2

Mechanical Dimension & Pin Layout 4

Other Requirements 5

General Description

WOS-IOPMS-302-02 is based on a key technology that integrates thin film filter and mini-TO packaged photodiode. It is possible for a small single device to tap off optical signal and detect its power. Its body is electrically isolated from the two leads (electrodes), which prevents electrical shortage when assembled as an array. It drastically minimizes the general size of optical sub-systems that require high dense multiple tap-PD modules assembly.

The special technology used in the integration guarantees good optical characteristics and low deviation over a wide operating temperature range (0°C~+75°C)

With qualification of various and actual ESD threshold test methods, WOS-IOPMS-302-02 can improve your product quality while saving money and your company's reputation.

Features

- Wide Dynamic Range (O+C+L Band)
- Low Insertion Loss & PDL
- Superior Response
- Low Dark Current
- High Reliability (GR-468-Core)
- RoHS Certification

Applications

- DWDM Channel Monitoring
- Optical Amplifier (EDFA, Raman)
- Variable Optical Attenuator (VOA)
- V-Mux

Absolute Maximum Ratings

Parameter	Symbol	Remark	Min.	Typ.	Max.	Unit
Reverse voltage	V_R	-			20	V
Input power	P_{in}	-5V Bias, @1550nm			30	dBm
Forward current	I_F	-			10	mA
Operating temp	T_C	-	0		75	°C
Storage temp	T_{STG}	-	-40		85	°C

Table 1. Absolute Maximum Ratings

Electro-Optical Characteristics

Inspection sheet shall be appended to products when they are delivered. Test report shall be submitted in papers and in electronic media. It shall contain the major in following items.

Optical Characteristics(Tc=25°C)

Parameter	Symbol	Remark	Min.	Typ.	Max.	Unit
Wavelength range	λ	@ 1310nm band @ 1550nm band	1260 1510		1360 1610	nm
Tap ratio		2%: Transmission to PD part 98%: Refection to output fiber		2		%
Insertion loss**	IL				0.5	dB
Polarization dependent loss*	PDL	-			0.05	dB
Return loss*	RL	-	45			dB

* Measured without connector

** Worst case over all operating condition, including wavelength, polarization and temperature

Table 2. Optical Characteristics

Electrical Characteristics(Tc=25°C)

Parameter	Symbol	Remark	Min.	Typ.	Max.	Unit
Responsivity	R	-5V Bias, @1310nm -5V Bias, @1550nm	14 16		26 30	mA/W
Wavelength dependent responsivity		Input power 100uW, 25°C room temperature -5V Bias @ 1550nm band			0.7	dB
Polarization dependent responsivity		Input power 100uW, 25°C room temperature -5V Bias, @1550nm			0.1	dB
Temperature dependent responsivity		Input power 100uW, -5V Bias, @1550nm			0.4	dB
Photocurrent linearity		Over full input optical power range			5	%
Photo current at input optical power of -30dbm		25°C room temperature -5V Bias, @1550nm	14			nA
Variation in responsivity over life(15 years)		-5V Bias, @1550nm			0.3	dB
Bandwidth	f_{3dB}	RL=50Ω, Pin=-10dB		600		MHz

Dark current	I_d	@25°C, -5V Bias @75°C, -5V Bias			1 5	nA nA
Capacitance	C	f=1MHz		6		pF
Soldering temperature					250	°C
Soldering time					5	sec

* Measured at 100uW of input power on 25°C room temperature

Table 3. Electrical Characteristics

Mechanical Dimension & PIN Layout

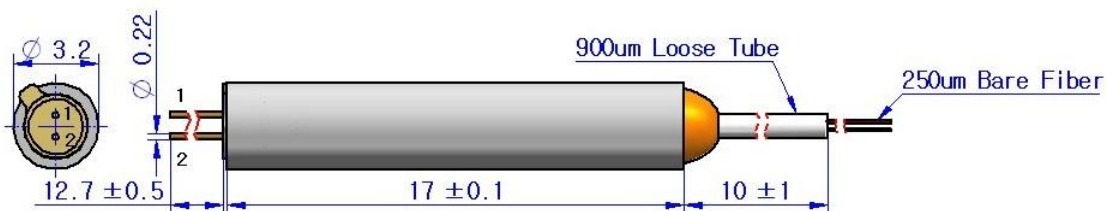
Mechanical Characteristics

Parameter	Symbol	Remark	Spec.	Unit
Fiber type		250um primary coated Input: red / output: clear	YOFC-G.657A	
Fiber length			1.0+0.3/-0	m
Connector		optional	None/SC/FC/LC	
Fiber loose tube		In case of 250um primary coating fiber	Outer diameter: 0.9 length: 10.0±1 color :2% / red	mm
Material of body		Body is electrically isolated from each signal pins	SUS 303	
Finish			No burrs or particles	
Total length		@ 250um primary coated fiber	17.0±0.1	mm
Outer diameter			Ø 3.2+0/-0.1	mm

Table 4. Mechanical Characteristics

Mechanical Dimension

(unit : mm)



A. 250um Bare Fiber Type

Figure 1. Mechanical Dimension

Pin Configuration : 1-Cathode, 2-Anode in Figure. 1.

Other Requirements

Precautions for use

This device is susceptible to damage as a result of ESD(electrostatic discharge). Use of ground straps, anti static mats, and other standard ESD protective equipment is recommended when handling or testing an InGaAs PIN/APD or any other junction photodiode.

Packaging

Products shall be packed into a suitable case in order to prevent damage during transportation and storage as long as A`s company with not demand other requirement.

Others

When the problem is caused concerning this specification sheet, both companies will confer in sincerity for the solution.

Ordering Information

Model name				Option			
Device	Type	Wavelength/Tap ratio	Ver.	Channel Number	Fiber	Connector Type	Pin Assignment
IOPM	S :Single	302 : 1310 & 1550nm/2% 305 : 1310 & 1550nm/5%	02	01 : 1Ch	S : SMF R : R-15 fiber Bare Fiber Length: 1+0.3m Color: Red/Clear	NC : No connector SP : SC/UPC FP : FC/UPC SA : SC/APC FA : FC/APC	