

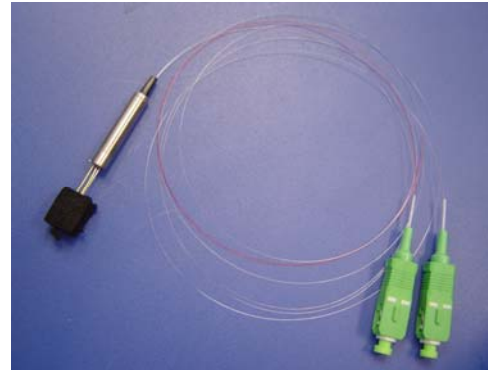
## WPDA Integrated WDM-PIN Module

### DESCRIPTION

The WPDA series module incorporates an high speed analog InGaAs photodiode with an integrated WDM filter. The photodiode is hermetically packaged in an industry standard coaxial package with two fiber pigtailed for input and output. This module is especially suited as a compact, low cost detector for FTTH, PON and bi-directional networks, where video signals are carried on 1550 nm wavelength.

### FEATURES

- Low insertion and polarization dependent losses
- FTTH Wavelength Range
- High Isolation, high bandwidth to 3 GHz
- Wide operating temperature range
- RoHS and Telcordia compliant



### APPLICATIONS

- Video channel receiver for FTTH PON
- Bi-directional wireless network
- CATV and DBS reception

### MODEL NUMBERS: WPDA - NN - X - Y<sub>IN</sub>Y<sub>OUT</sub>

NN:	Wavelength	X:	Fiber Type	Y <sub>IN</sub> /Y <sub>OUT</sub>	Connector
03:	1310 nm transmit	1:	250 um Bare Fiber	0:	None
05:	1550 nm transmit	2:	900 um loose tube	1:	SC/APC
		3:	900 um tight buffer	2:	SC/UPC
				3:	FC/APC
				4:	FC/UPC
				5:	LC/UPC

### MAXIMUM RATINGS

PARAMETER	Symbol	LIMIT
Storage Temperature	T <sub>ST</sub>	-40 to +85°C
Input Power Saturation	P <sub>IN</sub>	100 mW
Reverse Voltage	V <sub>R</sub>	35 V
Forward Current	I <sub>F</sub>	10 mA

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### OPTICAL AND ELECTROOPTICAL CHARACTERISTICS

(T=25 °C unless otherwise specified) All values referenced without connectors

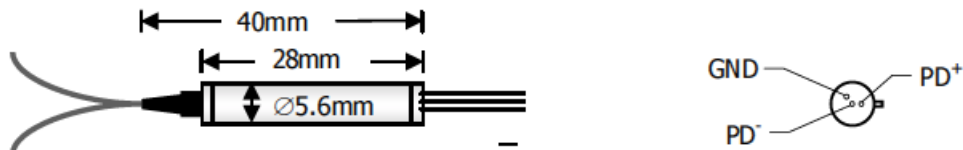
PARAMETER	SYMBOL	MIN	TYPICAL	MAX	UNIT
Operating Temperature	T <sub>OP</sub>	0		+75	°C
Transmission Wavelength Input Port → PD	λ <sub>T</sub>		1310 ± 20 (WPDA-03) 1550 ± 20 (WPDA-05)		nm
Reflection Wavelength Input Port → Output Port	λ <sub>R</sub>		1470 ~ 1570 (WPDA-03) 1290 ~ 1510 (WPDA-05)		nm
Insertion Loss @ λ <sub>R</sub> Input Port → Output Port				0.6	dB
Wavelength Dependent Loss @ λ <sub>R</sub> Input Port → Output Port				0.2	dB
PDL @ λ <sub>R</sub> Input Port → Output Port				0.2	dB
(WPDA-03) Isolation λ <sub>R</sub> = 1470~1570		40			dB
(WPDA-05) Isolation λ <sub>R</sub> = 1290~1350		40			dB
(WPDA-05) Isolation λ <sub>R</sub> = 1450~1500		25			dB
Isolation λ <sub>T</sub> @ Output Port		15			dB
Return Loss @ λ <sub>T</sub>	RL	50			dB
Photodiode Responsivity @ λ <sub>T</sub>	R	0.8 0.9	WPDA-03 WPDA-05		A/W
2 <sup>nd</sup> Order Intermodulation	IMD2	Note 1		-70	dB
3 <sup>rd</sup> Order Intermodulation	IMD3			-80	dB
Photodiode Bandwidth	BW	3			GHz
Photodiode Dark Current	I <sub>D</sub>	--	--	1	nA
Capacitance	C			0.6	pF

Note 1: 2-tone measurement at λ<sub>T</sub>, OMI=20%, 0 dBm received power, measured below 1 GHz

### MECHANICAL SPECIFICATIONS

(mm unless otherwise noticed, orientation of leads in bracket arbitrary)

Input (λ<sub>T</sub> λ<sub>R1</sub> λ<sub>R2</sub>) - uncolored



Output (λ<sub>T</sub> λ<sub>R1</sub> λ<sub>R2</sub>) – yellow

Standard SMF-28 optical fiber 1 m length