

## 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 land polarization dependent losses
- FTTP 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



## connector

SC/APC

SC/UPC

FC/APC

FC/UPC

LC/UPC

## MAXIMUM RATINGS

PARAMETER	Symbol	LIMIT
Storage Temperature	$T_{ST}$	-40 to +85°C
Input Power Saturation	$P_{IN}$	100 mW
Reverse Voltage	$V_R$	35 V
Forward Current	$I_F$	10 mA

## OPTICAL AND ELECTROOPTICAL CHARACTERISTICS

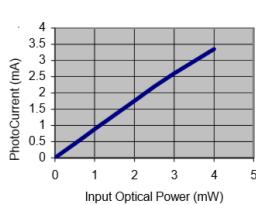
(T=25 °C unless otherwise specified) All values referenced without connectors

PARAMETER	SYMBOL	MIN	TYPICAL	MAX	UNIT
Operating Temperature	$T_{OP}$	0		+75	°C
Transmission Wavelength Input Port → PD	$\lambda_T$		$1550 \pm 20$		nm
Reflection Wavelength Input Port → Output Port	$\lambda_R$		$1260\sim1360$ $1480\sim1500$		nm
Insertion Loss @ $\lambda_R$ Input Port → Output Port				0.6	dB
Wavelength Dependent Loss @ $\lambda_R$ Input Port → Output Port				0.2	dB
PDL @ $\lambda_R$ Input Port → Output Port				0.2	dB
Isolation $\lambda_R = 1290\sim1350$ Isolation $\lambda_R = 1480\sim1500$		40 25			dB
Isolation $\lambda_T$ @ Output Port		15			dB
Return Loss @ $\lambda_T$	RL	50			dB
Photodiode Responsivity @ $\lambda_T$	R	0.9	1550		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	$I_D$	--	--	1	nA
Capacitance	C			0.6	pF

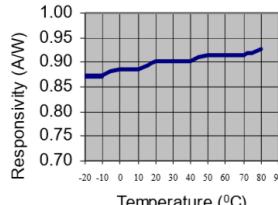
Note 1: 2-tone measurement at  $\lambda_T$ , OMI=20%, 0 dBm received power, measured below 1 GHz

## TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

PD Current (CW, T=25°C)



PD Response

IMD2 vs Bias  
(T = 25°C, P<sub>in</sub> = 0 dBm)