WL-DPD200MA

(Rev. 1c, 09/2017)

200 MHz Differential InGaAs Low Noise Photodetector

Features

- High transimpedance gain: 7500 V/W (1550 nm) into 50 Ω
- 200 MHz bandwidth
- DC coupled
- 2 monitor outputs (uncalibrated)
- Wavelength range: 1000 nm to 1700 nm
- Fiber Coupling: FC receptables
- Output: 50 Ω SMA plug
- Wide range single supply: 11 to 15 V

Typical Application

- Interferometry
- Optical Coherence Tomography
- LIDAR
- Can be used single-ended as well

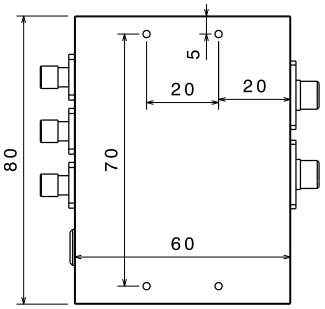
General Description

The DPD200MA is a DC-coupled high-speed differential ("dual-balanced") InGaAs photoreceiver. It features a high transimpedance gain, low noise and a -3 dB bandwidth of >200 MHz. The power on each of the two optical receptables can be measured independently via two dedicated monitor outputs.

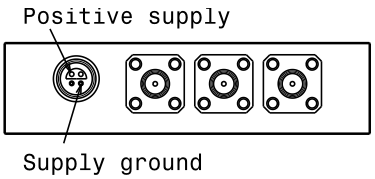
The DPD200MA comes in a rugged aluminum case with two FC fiber receptables and a 50 Ω SMA output. It operates from a single 11–15 V DC supply.

Mechanical Properties

- Fiber coupling: FC receptables for FC/PC and FC/APC connectors
- RF and monitor outputs: SMA (female)
- Supply voltage input: Push-pull LEMO plug (included with diode)
- Small form factor: 80×60×20 mm
- Mounting: 4x M2.5 threaded holes on bottom (screw length 4 mm)



Electrical Connectors



Supply connector (front view). The case is electrically connected to ground. There are two types of supply cable, one has 2 wires (new cable) and one has 5 wires (old). The corresponding color scheme of these cables is:

Cable type	Positive supply	Supply ground
2-wire	white	brown, shield
5-wire	yellow	grey, shield

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Specifications

Parameter	Conditions	Min	Typ	Max	Units
DC Input					
Supply Voltage (V_S)		11	12	15	V
Supply Current			100	160	mA
Main RF Out					
-3dB Bandwidth		240	265	290	MHz
Output Impedance			50		Ω
Output Voltage Range	into High-Z			±4	V
	into 50 Ω			±2	V
Noise Spectral Density	< 100 MHz		-131		dBm/Hz
	100 – 1000 MHz		-128		dBm/Hz
	> 1 GHz			-150	dBm/Hz
Noise Equivalent Power (NEP)	0 MHz – 100 MHz, 1550 nm		7		$\mathrm{pW}/\sqrt{\mathrm{Hz}}$
Optical Characteristics					
Input Wavelength Range		1000		1700	nm
Transimpedance Gain	into High-Z at 1550 nm		15 000		$\mathrm{V/W}_{optic}$
	into 50 Ω at 1550 nm		7 500		$\mathrm{V/W}_{optic}$
Common Mode Rejection Ratio		20	30		dB
Maximum Input Power	(damage threshold)	15			mW
Monitor Out					
3dB Bandwidth			150		kHz
Output Impedance			2		kΩ
Max. Output Voltage		8		V_S	V
Responsivity[1] (please specify)	1550 nm	0.4	0.5	20	$\mathrm{V/mW}_{\mathrm{opt.}}$

[1] Manufactured according to customer spec.