

# PD4B-20-P20-20G-W

## OVERVIEW

PIN photodiode coupled to an optical fiber and packaged into a hermetic case.

## MAIN FEATURES

- Maximum optical power: 20 mW
- Bandwidth: 20 GHz
- Typical responsivity: 0.55 A/W at 1550 nm
- Spectral range: 1100 - 1650 nm
- Package types: coaxial with or without bracket
- Low back reflection, return loss RL > 40 dB

## ORDERING INFORMATION

### PD4B-20-P20-20G-W-X-X-X-X-X-X

#### Optical matching

**R40:** back reflection -40 dB (SM1, SM3, SMP13 fiber)

#### Case type

**COAX:** compact coaxial (low duty cycle pulse mode only)

**COAXB:** compact coaxial with a bracket

#### Pinout code

**19:** see more details on page 4

#### Fiber type

**SM1:** SM, G.657.A1, [Corning SMF-28 Ultra](#), furcation tubing Ø0.9 mm or **BSM1** Ø0.25mm

**SM3:** SM, G.657.B3, [Corning ClearCurve ZBL](#), furcation tubing Ø0.9 mm or **BSM3** Ø0.25mm

**SMP13:** PM, [Corning PM1300](#), PANDA type, furcation tubing Ø0.9 mm

Other type on request

#### Connector type

**FU:** FC/UPC (SM1, SM3)

**FA:** FC/APC (SM1, SM3, SMP13)

**SU:** SC/UPC (SM1)

**SA:** SC/APC (SM1)

**N:** no connector (scissors cut)

Other type: on request

#### Fiber length

**0.5:** 500+/-50 mm

**1.0:** 1000+/-100 mm

Other length on request

# PD4B-20-P20-20G-W

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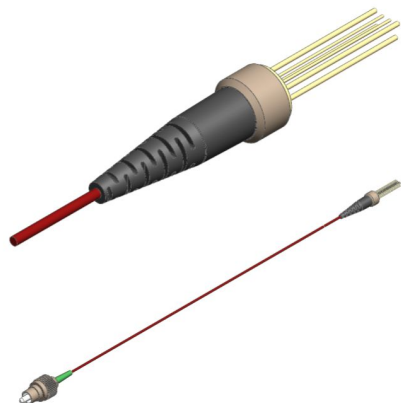
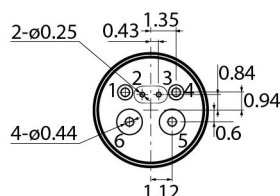
## ABSOLUTE MAXIMUM RATINGS

Parameter		Value	Unit	Conditions
Maximum optical input power	P <sub>max</sub>	20	mW	
Reverse voltage	V <sub>R</sub>	10	V	
Forward current	I <sub>F</sub>	15	mA	
Operating temperature*	T <sub>op</sub>	-40 - +85	°C	Coaxial package
Storage temperature	T <sub>stg</sub>	-40 - +85	°C	
Soldering temperature	T <sub>sold</sub>	260	°C	Max. 5 seconds

\*Operating temperature is defined by the case temperature. It is necessary to ensure sufficient heat dissipation so that the module's maximum operating temperature is not exceeded. Operation at elevated temperatures reduces the lifetime of the module.

**PD4B-20-P20-20G-W****ELECTRICAL-OPTICAL CHARACTERISTICS (T = 25 °C)**

Parameter		MIN	TYP	MAX	Unit	Conditions
Operating wavelength	$\lambda$	1100		1650	nm	
Responsivity	R	0.50	0.55		A/W	$\lambda=1550\text{nm}$ , $V_R = 5\text{ V}$
Return loss	RL	35	40		dB	R40
Operating voltage	$V_R$		5		V	
Dark current	$I_d$		25	50	nA	$V_R = 5\text{ V}$
Total capacitance	$C_t$		0.11	0.15	pF	1 MHz, $V_R = 2.5\text{ V}$
Bandwidth	BW	20	22		GHz	$P_i = -10\text{ dBm}$ , $R_{load} = 50\text{ Ohm}$ , small signal modulation
Rise/fall time	$t_r$ , $t_f$		14	16	ps	

**PD4B-20-P20-20G-W****COAX****BACK VIEW****PINOUT**

#19

1. PD Anode
2. PD Cathode
3. PD Cathode
4. PD Anode
5. No conn
6. No conn

Download more  
information



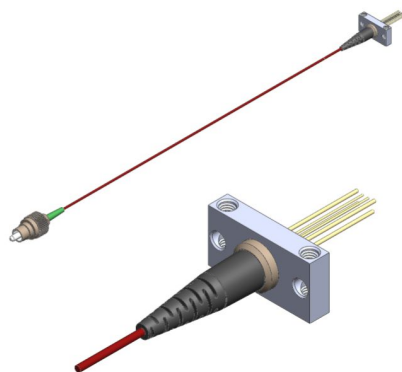
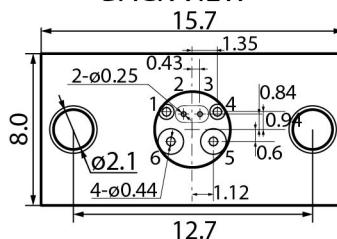
Drawing



3D model



Application Notes

**COAXB****BACK VIEW****PINOUT**

#19

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2. PD Cathode
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information



Drawing



3D model



Application Notes

# PD4B-20-P20-20G-W

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Characteristics, data, materials and structures specified in this datasheet are subject to change without notice. Please refer to the latest specification before use of the products.

## **Safety and handling cautions**

1. Avoid smashing and burning of the module. Avoid storing and using the module in conditions where water, organic solvents or aggressive acids or bases may contact the module or where there is a possibility of exposure to corrosive gases, explosive gases, dust, salinity or other harsh conditions. The module should be disposed as special industrial waste.
2. Exceeding absolute maximum ratings even for a short time can cause permanent damage of the module.
3. The module is sensitive to and can be broken by ESD (static electricity).

## **Conflict Minerals Policy Statement**

LD4B achieves business objectives and customer needs with social responsibility. We do not support or contribute to the violence and human rights violations associated with the mining of conflict minerals coming from Conflict Regions according to US "Dodd-Frank Act". When possible, our suppliers' conflict mineral statements are reviewed. We do not directly purchase Conflict Minerals from any source and do not knowingly procure any parts and products containing Conflict Minerals from Conflict Regions.

## **RoHS Compliance Statement**

Restriction of Hazardous Substances (RoHS) directive (Directive 2011/65/EC amended with Directive (EU) 2015/863) is the directive aimed at reducing the harmful environmental impact of waste electrical equipment by restricting the use of known dangerous substances. Based on information received from our supply sources, LD4B hereby states that the banned substances listed in the RoHS directive are not found in the parts and materials used above the threshold level listed other than exceptions approved by the European Commission.

## **REACH Compliance Statement**

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) is a European Union regulation 1907/2006/EC that addresses the production and use of chemical substances, and their potential impacts on human health and the environment. Based on information received from our supply sources, LD4B hereby states compliance of the parts and materials used in manufacturing to REACH regulation. LD4B does not manufacture or import any substances or preparations as defined under REACH.