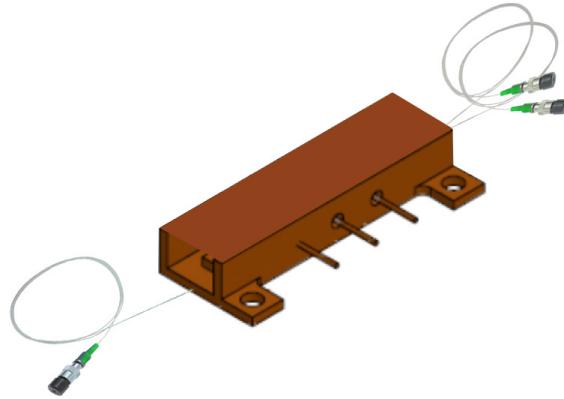


MIOC-1550-PG



Multi-functional Integrated Optical Chip Package, 1550 nm

The Optilab MIOC-1550-PG is the key component of Fiber Optic Gyroscope (FOG) for rotational rate sensing and inertial navigation systems. This Integrated Optic Chip (IOC) device is composed of a polarizer, a Y-junction coupler and dual electro optic phase modulators. Based on Lithium Niobate (LiNbO₃), MIOC-1550 is fabricated with High Temperature Proton Exchange (HTPE) optical waveguides. The MIOC-1550-PG features Polarization Extinction Ratio (PER) exceeding 60 dB that can minimize bias drift which results from polarization crosstalk induced non-reciprocity. The MIOC-1550-PG assures high reliability and performance over wide temperature range, contact Optilab for more information.

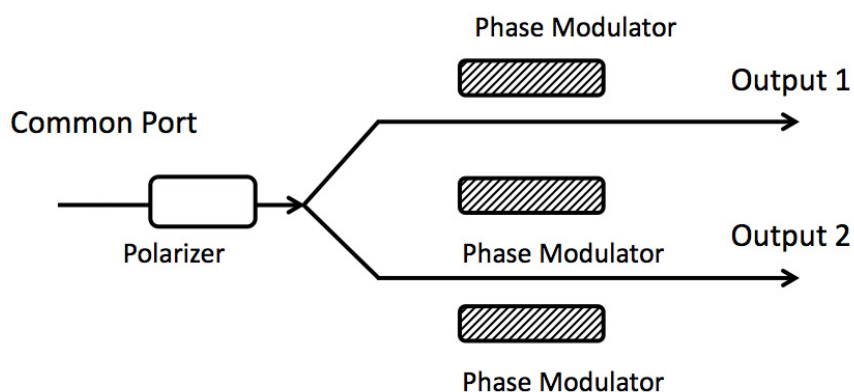
Features

- 1550 nm operation
- PM input and output port
- Polarization extinction ratio > 60 dB
- V_{π} voltage < 5 V
- Fiber/chip crosstalk < -20 dB
- Low fiber-to-fiber insertion loss
- Push-pull electrode design
- Unpackaged chip available

Applications

- Fiber Optic Gyroscope (FOG)
- Fiber Optic Current Sensor (FOCS)
- Hydrophone and other optic sensitive fields
- Research and development

Functional Diagram



Multi-functional Integrated Optical Chip Package, 1550 nm OPTIONS

MIOC-1550-PG-XX

XX None: bare fiber
FA: FC/APC

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

Optical Specifications	
Operating Wavelength	1550 ± 20 nm
Pigtailed insertion loss	≤ 4.5 dB; 3.5 dB available
Split ratio	50 ± 5 %
Half-wave phase modulation voltage, $V\pi$	≤ 5.0 V, 4 V available
Polarization extinction ratio, chip	≥ 60 dB
PM pigtail crosstalk	≤ -20 dB
Intensity modulation	≤ 0.1 %
Electrode type	Push-pull
Pigtail type	PM PANDA 125 μm, 80 μm available
Operating Temperature	-45 °C to +70 °C

WEB ORDER

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Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

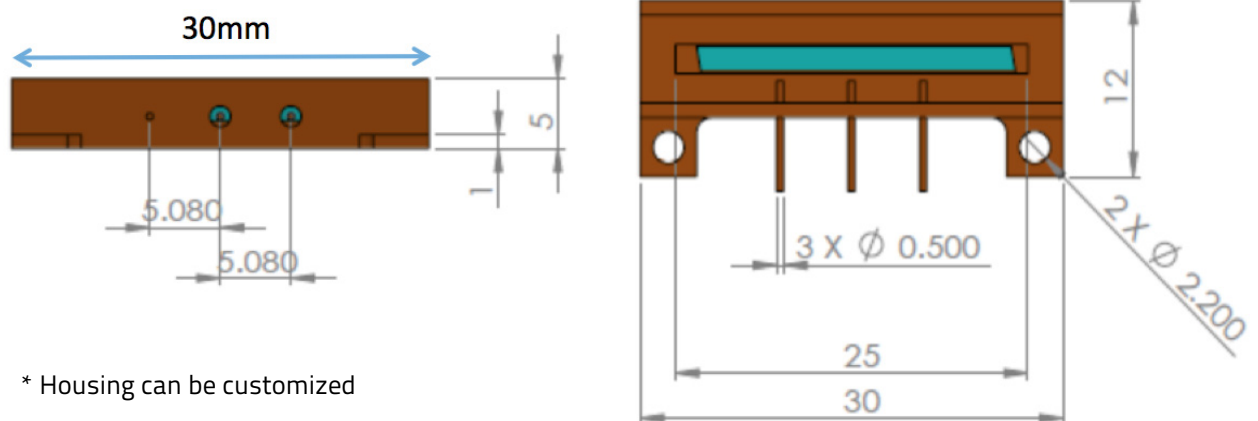
Mechanical Specifications	
Housing Material *1	Stainless steel
Input Fiber Type	PANDA - PM 125 μm
Output Fiber Type	PANDA - PM 125 μm
Substrate Material	LiNbO3
Crystal Orientation	X-cut, Y-propagation
Waveguide Process	HTPE
Connector	Bare fiber standard, FC/APC avail.

Temperature Test Data

	ER(dB)			Coupling ratio (%)	$V\pi$ (V)	IL(dB)
	-5°C	25 °C	85 °C			
COM.	31.3	33.1	31.0	n.a.	<4.5V	3.7
OUTPUT 1	24.3	26.2	24.5	50.0		
OUTPUT 2	28	30.8	27.8	50.0		

Fiber length: 8m

MIOC-1550-PG Mechanical Drawing



* Housing can be customized