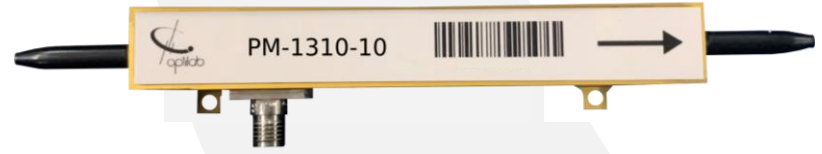# PM-1310-10

10 GHz, 1310 nm Phase Modulator

OVERVIEW

The Optilab PM-1310-10 is a high performance, 10 GHz LiNbO3 phase modulator. PM-1310-10 can provide phase modulation in a broad operation bandwidth with a low driving voltage. Its low insertion loss provides for maximum transmission power. PM-1310-10 is fabricated with Annealed Proton Exchange (APE) optical waveguides and features a chip Polarization Extinction Ratio (PER) of over 60 dB. The PM-1310-10 phase modulator uses polarization maintaining input and output fibers, making it easy to integrate with other optical components. Contact Optilab for more information.
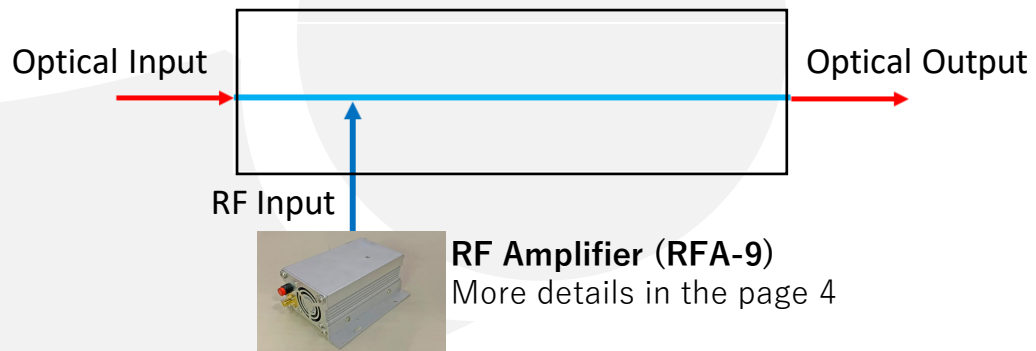
FEATURES

- 10GHz Bandwidth
- X-cut APE Process
- Low Insertion Loss
- Low Drive Voltage

- 1270 nm to 1370 nm
- Minimal Back Reflections
- Chip PER over 60dB

USE IN

- Optical Chirping
- Research & Development
- Laser Linewidth Broadening

- FM Spectroscopy
- Frequency Shifting

FUNCTION DIAGRAM

Optical Input

Optical Output

RF Input

RF Amplifier (RFA-9)
More details in the page 4

PM-1310-10

SPECIFICATIONS

GENERAL

Input Optical Power	50 mW max
Operating Wavelength	1270 nm to 1370 nm
Insertion Loss	4.0 dB typical
Chip Polarization Extinction Ratio	> 60 dB
Pigtail Polarization Extinction Ratio	≥ 20 dB
Process	Proton Exchange
Optical Return Loss	≥ 30 dB
S_{21} Bandwidth	8 GHz typical @ -3 dB
$V\pi$	8.8V typ @ 1GHz, 14V typ @ 10GHz
RF Input Power	+30 dBm max
Impedance	50 Ω typical

### MECHANICAL

|	
Operating Temperature	-55°C to + 75°C
Storage Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input Fiber	Panda, PM 13-U25D
Output Fiber Type	Panda, PM 13-U25D
Input Connector	PM FC/APC, others available
Output Connector	PM FC/APC; others available
RF Port Connectors	K Connector
Cabling	900 μm tubing
Dimension	3.783"x 0.981" x 0.640"

PM-1310-10

MECHANICAL
DRAWING
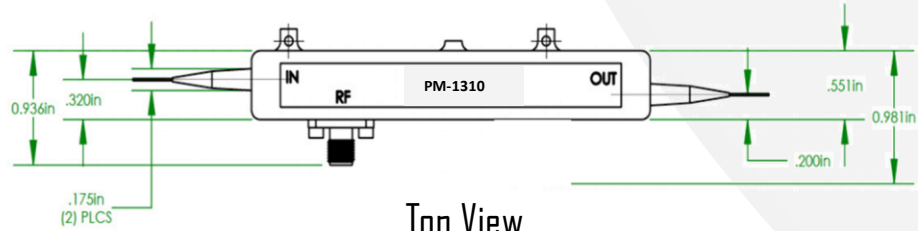
Top View
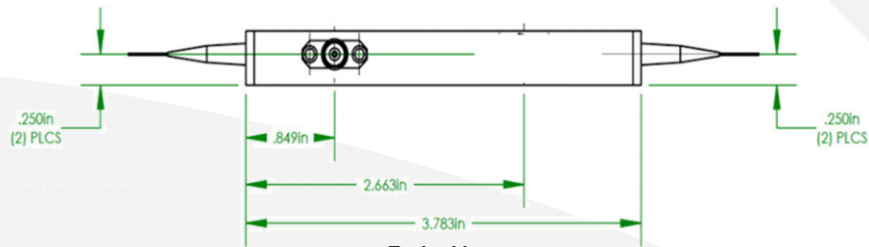
Side View

Available
Accessories

- **RFA-9**

The Optilab RFA-9 is a high gain RF amplifier module with 30dBm output and 10V peak to peak. It offers cost-effective solutions for microwave and analog link. Please contact Optilab for more detail.