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1550nm Phase Modulator 300 MHz



• Product Description

The PM-1550-300-PA phase modulator is a high-performance LiNbO3 modulator with a bandwidth of up to 300 MHz. This modulator provides phase modulation with low driving voltage. Its low insertion loss ensures maximum transmission power. The PM-1550-300-PA modulator uses polarization-maintaining (PM) input and output fibers, making it easy to integrate with other optical components.

• Part Number

PM-1550-300M-PM-FA

Product features

Bandwidth up to 300 MHz $\,$ $\,$ Operating range: 1525 nm to 1565 nm $\,$ $\,$ Low

insertion loss, typical 3 dB \checkmark Minimal back reflection \checkmark Drive voltage: 4V @ 1

MHz



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• Application area

Coherent communication 、 Optical chirping 、 Optical sensing 、 FM spectroscopy 、 Frequency shifting 、 Laser linewidth broadening

• Dimensional Drawing





Main Parameters

Electro-O tical Characteristics (Tsub = 25° C, continuous wave bias, unless otherwise s ecified)

Product Model	РМ-1550-300-РА
Waveguide Process	Annealed Proton Exchange (APE)
Integrated Photodiode	No
Operating Wavelength Range	1525nm to 1570nm
Insertion Loss	3 dB typical, 3.5 dB max.
On/Off Extinction Ratio	≥ 21 dB min.
Optical Return Loss	≥ 30 dB
Electrical Parameters	
RF Port	
Drive Voltage (Vpi)	8 V typ. @ 1 MHz





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Electro-Optic Bandwidth @ -3 dB	300 MHz typ., @ -3 dB
RF Return Loss	
RF Input Power	+30 dBm max.
RF Impedance	
Bias Port	
Bias Drive Voltage (Vpi)	N/A
Input Impedance	N/A
Environmental/User Interface	
Input Fiber	Panda – PM1550
Output Fiber	Panda – PM1550
Output Fiber Connector	PM FC/APC, can be customized as per client needs
RF Connector	3pin
Bias Connector	
Dimensions	3.783" x 0.981" x 0.640"
Operating Temperature Range	-55 °C to +75 °C
Storage Temperature Range	-60 °C to +90 °C

Phase Modulator Test Report

The test optical path diagram is shown below:







The following results were obtained on the oscilloscope:



The output impedance of the AFG is 50Ω , generating a sine wave signal at 500kHz with an amplitude of 0–3.8V. The 3.8V should represent the half-wave voltage, but a full-wave phase shift is displayed on the oscilloscope, possibly due to an impedance mismatch between the AFG and the product.

Ordering Information

PM-W□□□-☆-XX PM: Phase Modulator/IM: Intensity Modulator □□□: Wavelength 850: 850nm 1064: 1064nm 1310: 1310nm 1550: 1550nm ☆: Bandwidth 300: 300MHz 10G: 10GHz XX: Fiber and Connector Type SA = SMF-28E+ FC/APC SP = SMF-28E+ FC/PC PP = PM Fiber+ FC/PC PA = PM Fiber+ FC/APC

