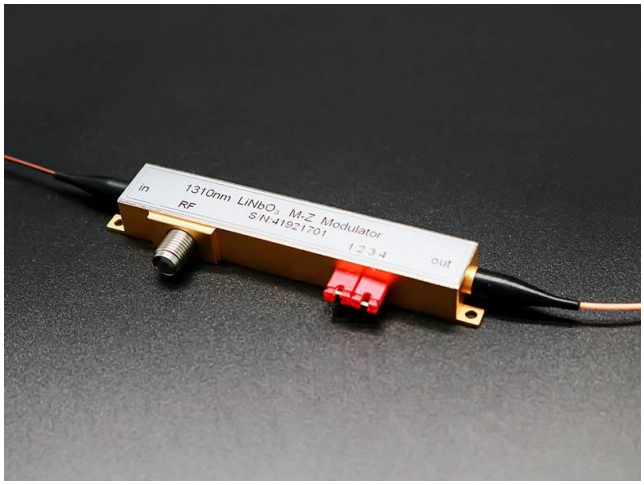
1310nm LiNbO3 2.5Gb/s Intensity Modulator



Product Description

Idealphotonics' lithium niobate (LiNbO3) intensity modulator is made of Mach-Zehnder type optical waveguide by titanium diffusion or proton exchange process. The input and output optical fibers are precisely obliquely coupled to the waveguide, and the electro-optical effect of lithium niobate material is used to achieve intensity modulation of the optical signal.

Product features

X-cut Y-transmitted LiNbO3 、 Titanium diffused or proton exchange waveguide、 Low drive voltage、 Independent bias electrode Zero chirp、

Precise oblique coupling between fiber and chip greatly reduces、 Back reflection、 Excellent long-term stability

Part Number

MP-EOM-IM-1310-3G-FA

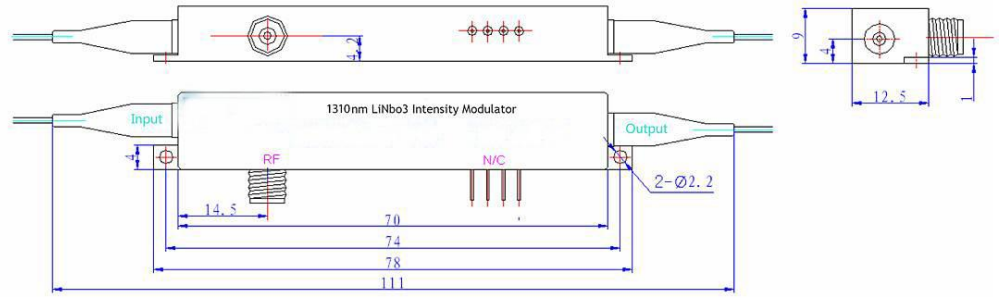
Application area

Pulse generation, pulse shaping, pulse picking、 Carrier suppression、 Fiber optic sensing system、Pulse application、Analog transmission、Laser radar

Core parameters

Wavelength	Bandwidth	Connector
1310nm	3GHz	FC/APC

Dimension Drawing



General Parameters

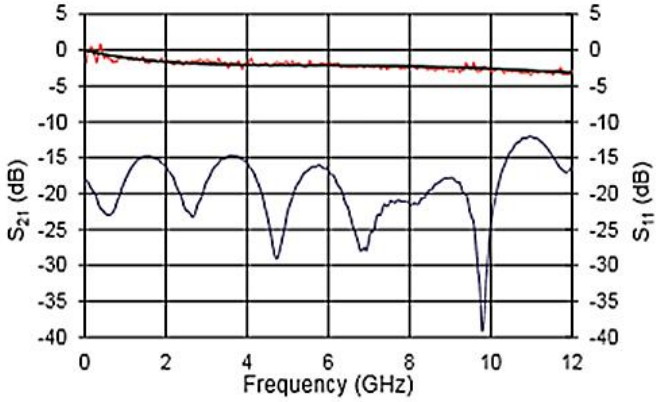
Parameters

Parameter	Unit	Min.	Typical	Max.
Half-wave voltage DC electrode	V		6.5	7.0
Electro-optical bandwidth S21@-3dB	GHz	3		
RF half-wave voltage @DC	V		3.5	4.0
Bias half-wave voltage	V			5.0
Jitter	dB		0.5	1
Electrical return loss S110-20GHz	dB		-12	-10
RF connector input resistance	Ω	40		
Input impedance DC connector	Ω	>1M		
Crystal: Lithium Niobate		X-cut Y-propagation		
Waveguide process		APE Process		
Insertion loss	dB		3.0	4.0
Optical return loss	dB		<-45	
Wavelength-dependent loss (1480-1600nm)	dB		0.5	1.0
DC extinction ratio	dB	20	22	
Input fiber		Panda polarization-maintaining fiber 1.5 meters long, 900um		
Output fiber		SMF-28 single-mode fiber 1.5 meters long, 900um (PMF optional)		
Input RF connector		SMA		
DC connector		Pin feed-through diameter: 1.0mm		
Package size	mm	110 x12.5 x9.0		
Operating temperature	℃	0~ +70		
Storage temperature	℃	-40 ~ +85		

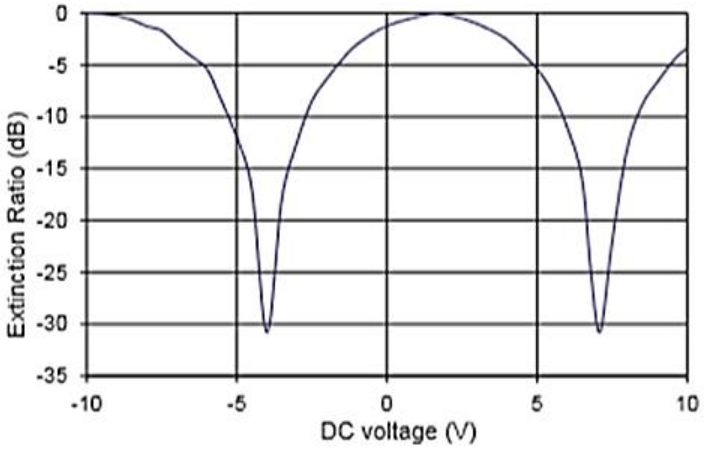
Parameter	Unit	Min.	Typical	Max.
DC input maximum voltage	V		±20	
Maximum RF input power	dBm		+28	
Maximum input optical power	mW		200 (APE process)	

*** 1064nm, 850nm wavelength can be customized**

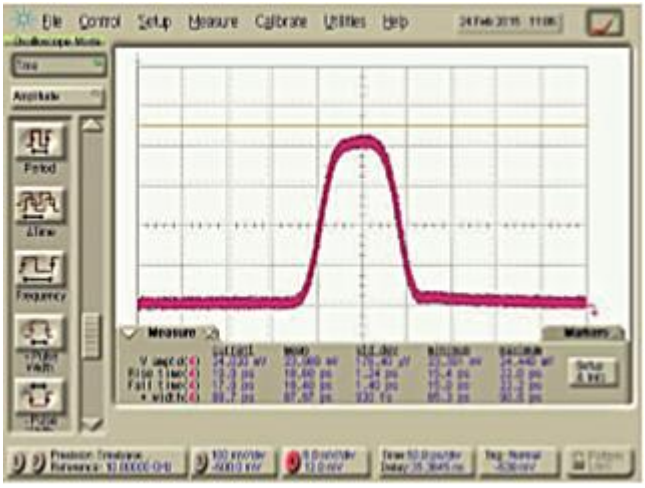
Performance Display



(S21 and S11 curves)



(Pulse extinction ratio)



(100ps square wave pulse generation)

Ordering Information

MP-EOM-IM-W-BW-XX-Y-Z-AB-CD

wavelength:

0850：850nm

1064：1064nm

1310：1310nm

BW：Electro-optical bandwidth

3G represent >03GHz

10G represent >10GHz

Y：input fiber

P represent polarization-maintaining fiber

S represent single mode fiber

Z：output fiber

P represent polarization-maintaining fiber

S represent single mode fiber

AB：input fiber connector

00 represent bare fiber

FA represent FC/APC

FC represent FC/SPC

CD：output fiber connector

00 represent bare fiber

FA represent FC/APC

FC represent FC/SPC