

1550nm LiNbO3 2.5Gb/s Intensity Modulator



● Product Description

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

● Part Number

LIM-1550-3G-PM-FA

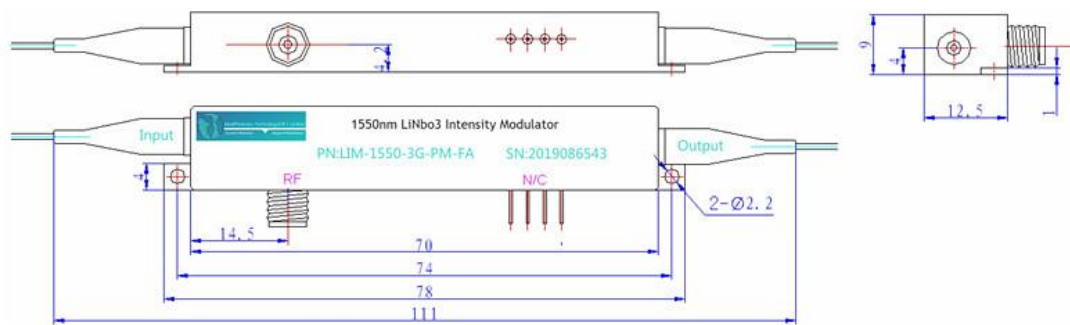
● Product features

X-cut Y-transmitted lithium niobate、 Titanium diffused or proton exchange waveguide、 Low driving voltage、 Independent bias electrode · Zero chirp、 Precise oblique coupling between fiber and chip, greatly reducing、 Backlight reflection、 Excellent long-term stability

● Application area

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

Dimensional Drawing



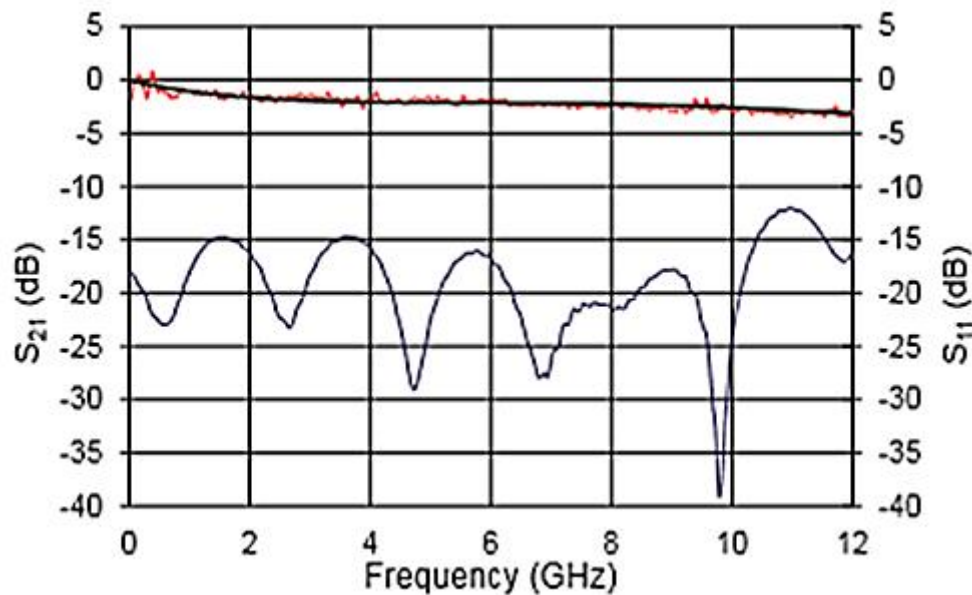
Parameter

Condition	Unit	Min.	Typical	Max.
PN#		LIM-1550-3G-PM-FA		
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 S11@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

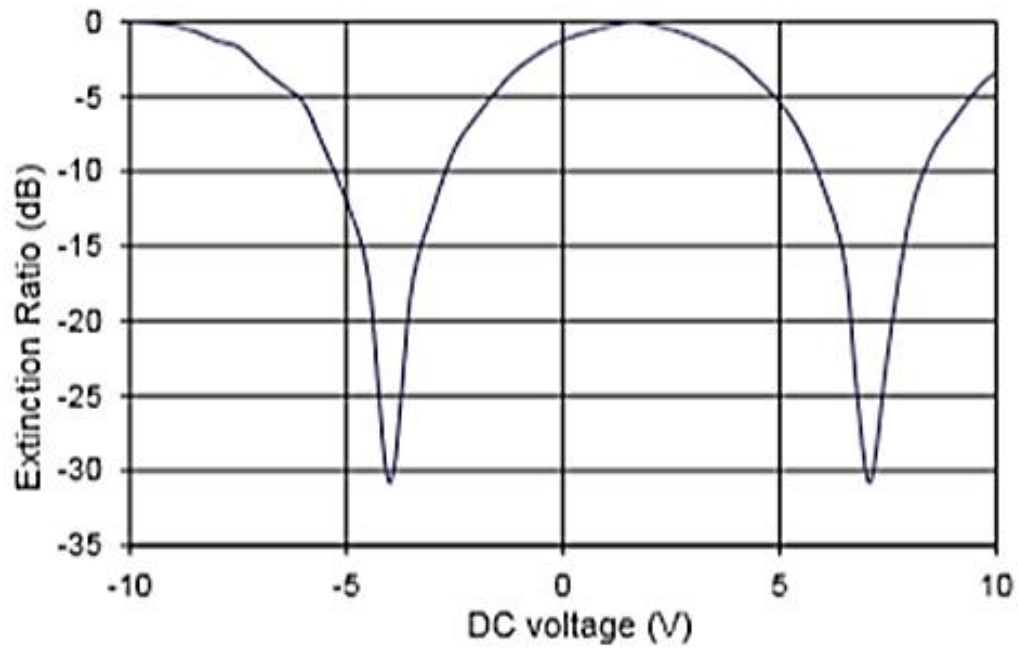
DC extinction ratio	dB	20	22
Input fiber		Panda polarization-maintaining fiber 1.5 meters long, 900um	
Output fiber		SMF-28 single-mode fiber 1.5 meters long, 900um (PMF optional)	
Input RF connector		SMA	
DC connector		Pin feed-through diameter: 1.0mm	
Package size	mm	110 x12.5 x9.0	
Operating temperature	°C	0~ +70	
Storage temperature	°C	-40 ~ +85	
DC input maximum voltage	V	± 20	
Maximum RF input power	dBm	+28	
Maximum input optical power	mW	200 (APE process)	

Note: 1310nm、1064nm、850nm can optional

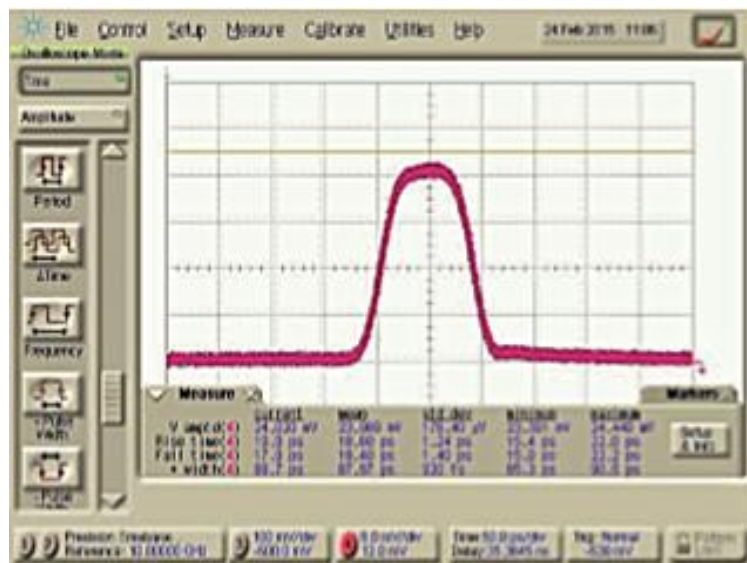
Performance Display



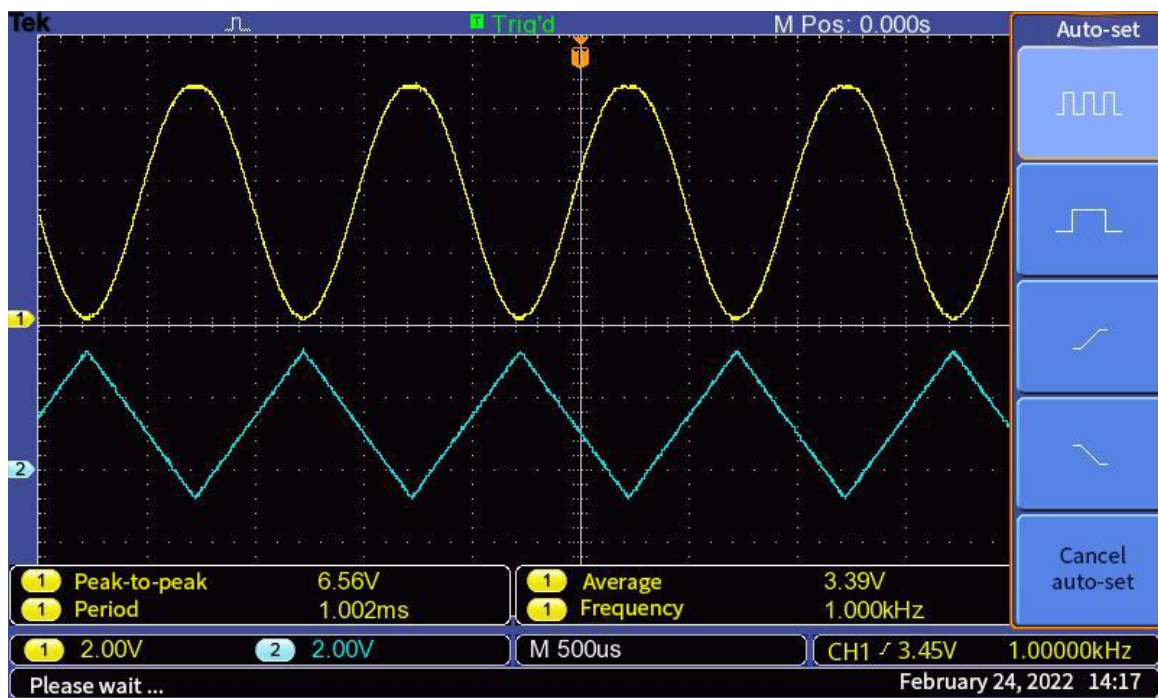
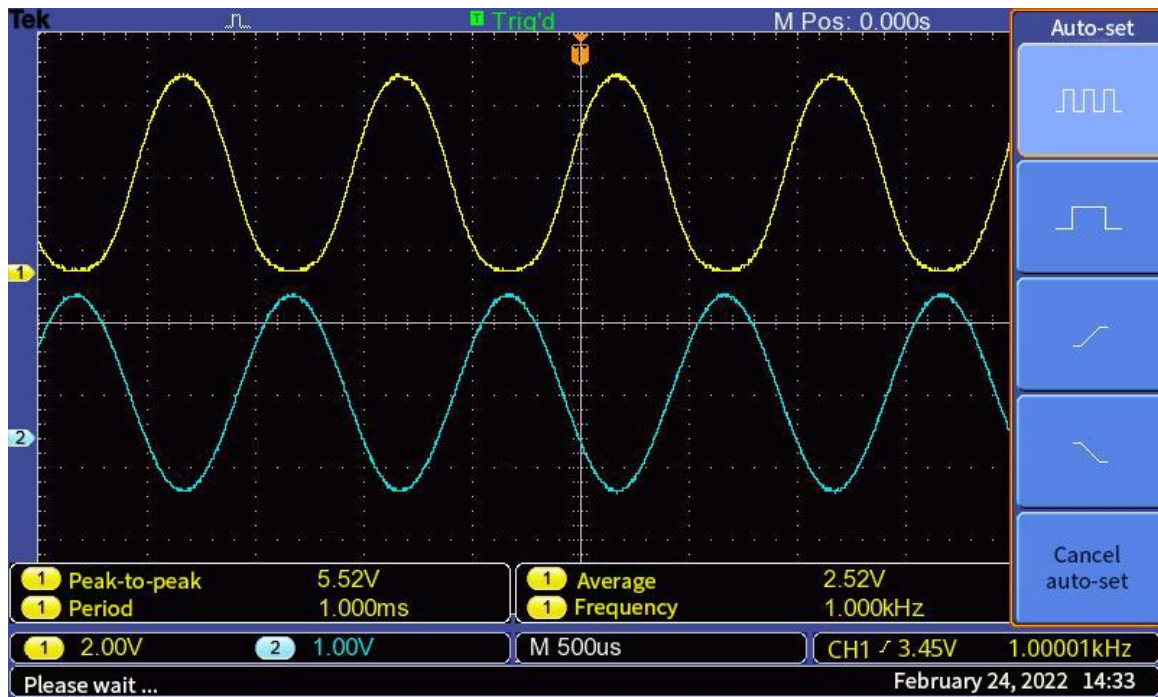
S21 and S11 curve

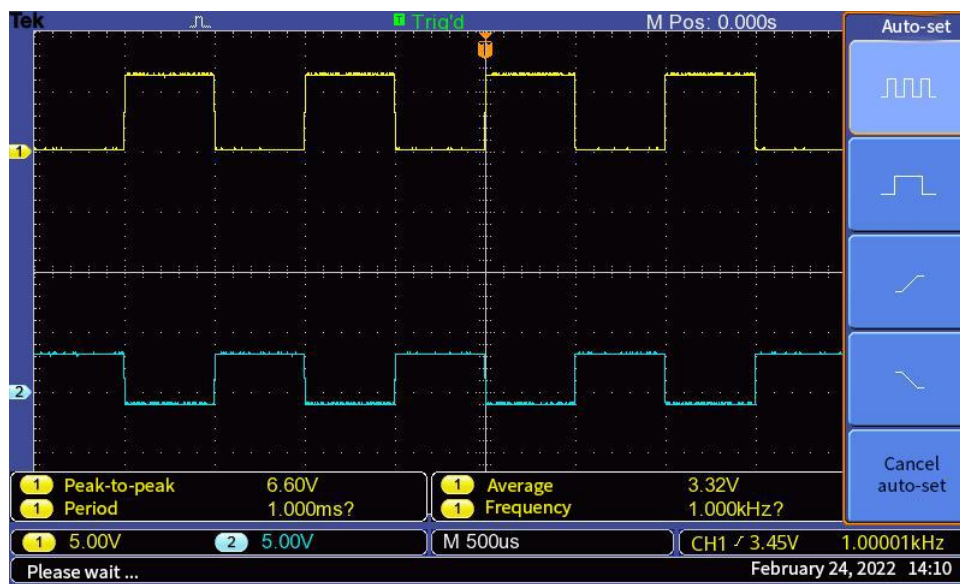


Pulse extinction ratio



100ps square wave pulse generation





Ordering Information

LIM-W -BW -XX -Y -Z-AB-CD

W wavelength:

0850: 850nm

1064: 1064nm

1550: 1550nm

BW: Electro-optical bandwidth

3G stands for >03GHz

10G stands for >10GHz

Y: Input fiber

P: stands for polarization-maintaining fiber

S: stands for single-mode fiber

Z: Output fiber

P: stands for polarization-maintaining fiber

S stands for single-mode fiber

AB: Input fiber connector

00 stands for bare fiber

FA stands for FC/ APC

FC stands for FC/ SPC

CD: Output fiber connector

00 stands for bare fiber

FA stands for FC/ APC

FC stands for FC/ SPC