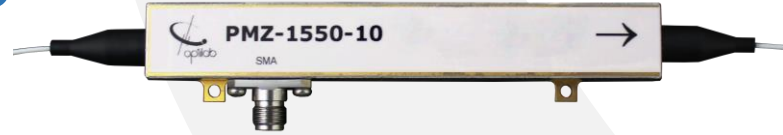




PMZ-1550-10



DEVICE

Phase Modulator, 1550 nm, 10 GHz, Z-Cut

OVERVIEW

The Optilab PMZ-1550-10 is a phase modulator designed for phase modulation of C band optical wavelength. This modulator consists of an optical waveguide fabricated with Ti:In-Diffused process on a Z-Cut single crystal lithium niobate material. Both input and output of the modulator are coupled to Polarization Maintaining fibers for easy use. Contact Optilab for more information.

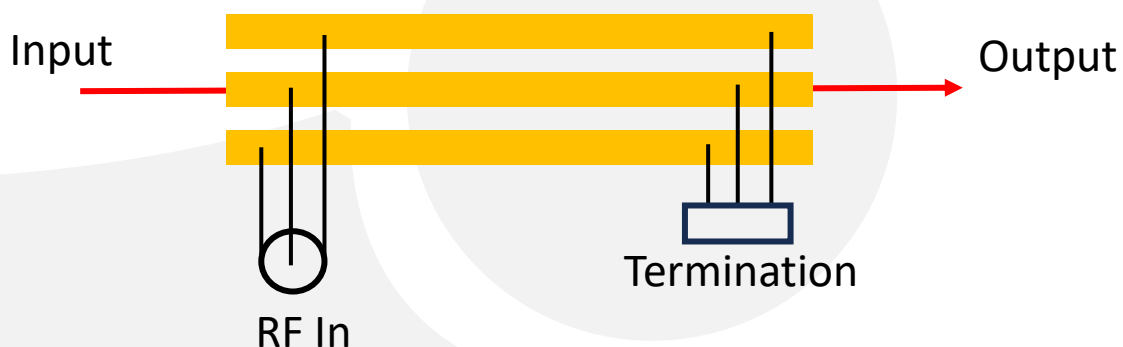
FEATURES

- Low Drive Voltage
- Low Insertion Loss
- PM Fiber Input and Output
- Optional Built-in Polarizer

USE IN

- Optical Sensing
- Narrow Linewidth Laser
- Injection Mode Locking
- Quantum Communication
- High Performance Computing

FUNCTION DIAGRAM





PMZ-1550-10

ABSOLUTE MAXIMUM RATING ($T_c = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Parameter	Conditions	Min	Max	Unit
Optical Input Power	CW		100	mW
RF Input Power			30	dBm
Operation Case Temperature		0	70	$^{\circ}\text{C}$
Storage Temperature		-25	75	$^{\circ}\text{C}$
Soldering Time	$\leq 260\text{ }^{\circ}\text{C}$		10	sec

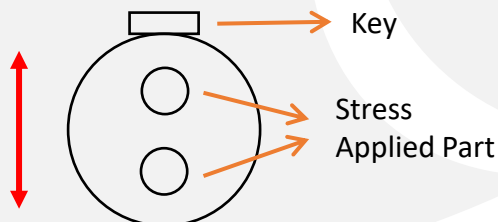
GENERAL SPECIFICATIONS ($T_c = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Parameter	Conditions	Min	Typ.	Max	Unit
Operating Wavelength		1530		1570	nm
Optical Insertion Loss	w/o connector loss		3	3.5	dB
RF Vpi	@ 1550 nm, 100 kHz		3.6	4.1	V
	@ 1550 nm, 1 GHz		4.6	5.2	V
	@ 1550 nm, 10 GHz		6.3	7.2	V
S21 Bandwidth	3 dB drop from 1 GHz	8	10		GHz
Electrical Return Loss	Up to 10 GHz		-10	-9	dB
Optical Back Reflection Loss			-47	-40	dB
RF Impedance			50		Ω

FIBER SPECIFICATIONS

Parameter	Note	Min	Typ.	Max	Unit
Optical Connector	Slow axis aligned to Narrow Key		FC/APC		
Optical Fiber Type			Panda PM15		
Mode Field Diameter		10	10.5	11	μm
Cladding Diameter		122	125	128	μm
Buffer Diameter		380	400	420	μm
Loose Tube Diameter			900		μm
Fiber Length		0.9	1.2	1.5	m

POLARIZATION REQUIREMENT



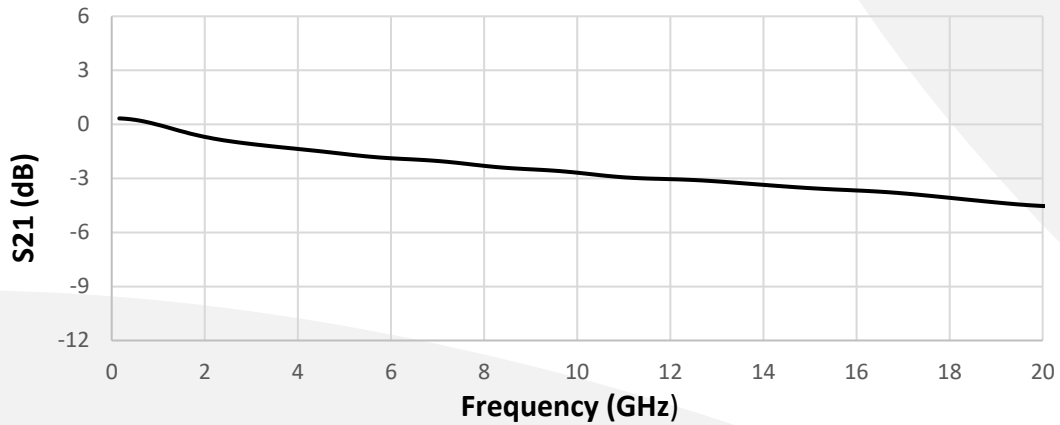
* Optical input shall be linearly polarized along the slow axis of the PM fiber.





PMZ-1550-10

TYPICAL E/O RESPONSE: S21



MECHANICAL DRAWING

