

10 GHz Phase Modulators

The LN53S and the LN65S are Phase Modulators from Covega, Thorlabs Quantum Electronics. These modulators are high-performance optical modulators with a Titanium-indiffused Lithium Niobate design, which allows for ease of use in high-speed modulation systems.

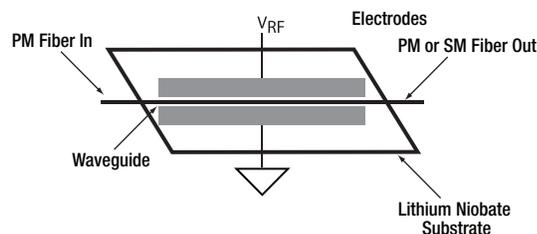
The LN53S and the LN65S are high-performance 10 GHz (10 Gb/s) phase modulators that have a large bandwidth, allowing for chirp control in high-speed data communication; they can support data rates up to 12.5 Gb/s. These modulators are also ideal for applications in coherent communications, sensing, all-optical frequency-shifting, and data encryption. The LN53S and the LN65S 10 Gb/s Phase Modulators are identical aside from the inclusion of an optical polarizer before the output fiber of the LN65S.

The LN53S and LN65S modulators are based on Z-Cut Titanium-indiffused LiNbO₃ and packaged in a hermetic housing with PM and SM fiber pigtailed on the device input and output, respectively. The pigtailed are connectorized with FC/PC and SC/PC connectors. PM fiber pigtailed are available on the device output upon request.



LN53S
10 GHz Phase Modulator

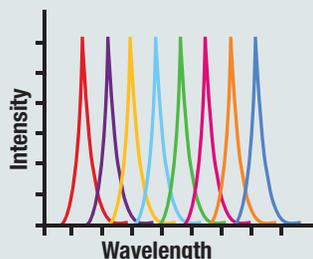
ITEM#	LN53S / LN65S			
Parameter	Symbol	Min	Typ	Max
E/O Bandwidth (-3 dB)	f_{c-3dB}	10.0 GHz	–	–
Bit Rate Frequency	f_{BR}	9.953 GHz	–	12.5 GHz
Optical Insertion Loss (Connectorized)	I.L.	–	3.5 dB	4.5 dB
Operating Wavelength	λ	1525 nm	–	1605 nm
Insertion Loss Variation (EOL)	$\Delta I.L.$	-0.5 dB	–	0.5 dB
Optical Return Loss		40 dB	–	–
S11 (DC to 10 GHz)		–	-12 dB	-10 dB
RF Drive Voltage (PRBS)	V_{PRBS}	–	4.5 V	5.0 V
V_{π} @ DC		–	3.5 V	4.0 V
Operating Case Temperature		0 °C	–	70 °C
Storage Temperature		-40 °C	–	85 °C



Phase Modulator Waveguide

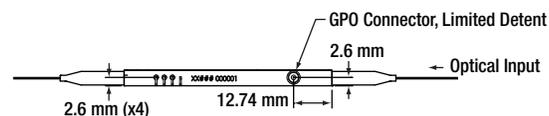
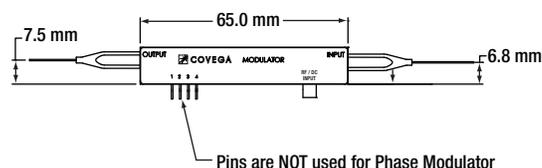
WDM Sources

See Pages 1064-1073



Mechanical
Drawings Available on the
WEB

OPTICAL PORTS
Input : PM Fiber
Output : SM Fiber



10 GHz Modulator Package Drawing

ITEM#	\$	£	€	RMB	DESCRIPTION
LN53S-FC	\$ 1,550.00	£ 1,074.50	€ 1,376.00	¥ 13,089.00	10 GHz Phase Modulator without Polarizer, FC/PC Connectors
LN53S-SC	\$ 1,550.00	£ 1,074.50	€ 1,376.00	¥ 13,089.00	10 GHz Phase Modulator without Polarizer, SC/PC Connectors
LN65S-FC	\$ 1,550.00	£ 1,074.50	€ 1,376.00	¥ 13,089.00	10 GHz Phase Modulator with Polarizer, FC/PC Connector
LN65S-SC	\$ 1,550.00	£ 1,074.50	€ 1,376.00	¥ 13,089.00	10 GHz Phase Modulator with Polarizer, SC/PC Connectors