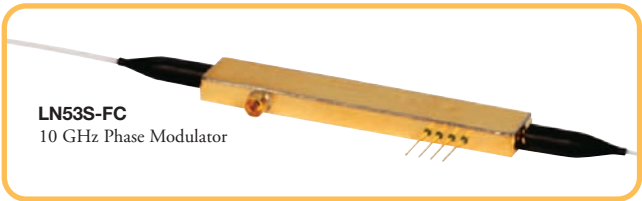


10 GHz Phase Modulators

The LN53S and LN65S are Titanium-Indiffused Z-Cut LiNbO₃ Phase Modulators that are designed to be integrated into 300 pin MSA compatible transponders. Phase modulators provide chirp control in high-speed data communications. The LiNbO₃ design is also ideal for coherent communications, sensing, all-optical frequency-shifting, and data encryption applications.

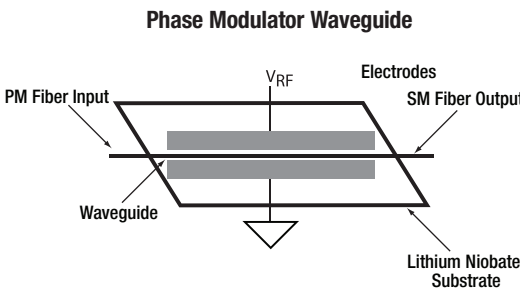
The two Z-cut LiNbO₃ phase modulators presented here are 10 GHz devices with PM and SM fiber pigtails on the device input and output, respectively. The LN65S has an optional integrated optical polarizer positioned before the output port of the device. Both models are offered with FC/PC connectors. For more information on custom configurations (i.e., fiber type, connectorization, etc.) and quotes, please contact Technical Support.



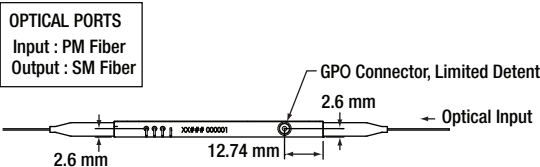
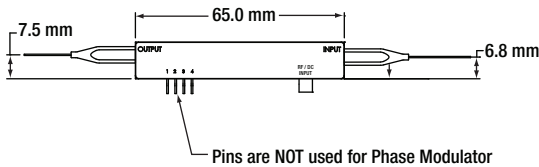
LN53S-FC
10 GHz Phase Modulator

ITEM #	LN53S / LN65S		
Parameter	Min	Typical	Max
Operating Wavelength ^a	1525 nm	—	1605 nm
Optical Insertion Loss (Connectorized)	—	3.5 dB	4.5 dB
E/O Bandwidth (-3 dB)	10.0 GHz	—	—
RF Drive Voltage (PRBS ^b)	—	4.5 V	5.0 V
DC V _π ^c	—	4.0 V	4.5 V
Optical Return Loss	40 dB	—	—
S11 (DC to 10 GHz)	—	-12 dB	-10 dB
Digital Comm. Bit Rate Frequency	9.953 Gb/s	—	—
Insertion Loss Variation (EOL ^d)	-0.5 dB	—	0.5 dB
Operating Case Temperature	0 °C	—	70 °C

^aThe modulator is designed for use in the 1550 nm window. Using the modulator at another wavelength may cause a temporary increase in loss that is not covered under warranty.
^bPseudo Random Binary Sequence
^cHalf-Wave Retardation DC Voltage
^dEnd of Life



10 GHz Modulator Package Drawing



ITEM #	\$	£	€	RMB	DESCRIPTION
LN53S-FC	\$ 1,550.00	£ 1,116.00	€ 1,348.50	¥ 12,353.50	10 GHz Phase Modulator, FC/PC Connectors
LN65S-FC	\$ 1,550.00	£ 1,116.00	€ 1,348.50	¥ 12,353.50	10 GHz Phase Modulator with Polarizer, FC/PC Connector

Have you seen our... Free-Space Modulators

- ◆ Operating Wavelengths from 400 to 1650 nm
- ◆ Amplitude or Phase Modulation
- ◆ Ø2 mm Clear Aperture

In addition to Thorlabs' fiber-based modulators, we also offer free-space designs for visible and NIR wavelengths. These compact LiNbO₃ devices can be driven by our HVA200 controller, or another voltage amplifier with an SMA connector.



For more details, see pages 1424 - 1434