



R-TFLN-IQ

Description

Lithium niobate on insulation (LNOI) materials inherit the excellent electro-optical properties of bulk lithium niobate materials, offering a new solution for integratable, small-sized, highly modulation-efficient lithium niobate modulator chips. We have developed a broadband, low half-wave voltage thin-film LiNbO₃ electro-optical modulator based on LNOI material. Our products have excellent characteristics of high stability, low insertion loss, and small size, which are superior to the traditional bulk material lithium niobate modulator, and have a wide range of applications in the fields of high-speed optical communication and microwave photonics.

Fecture

- High Bandwidth
- Low Insertion loss
- Low drive voltage
- Small size
- High stability

Application

- Long-distance coherent communication, microwave photonics, etc.

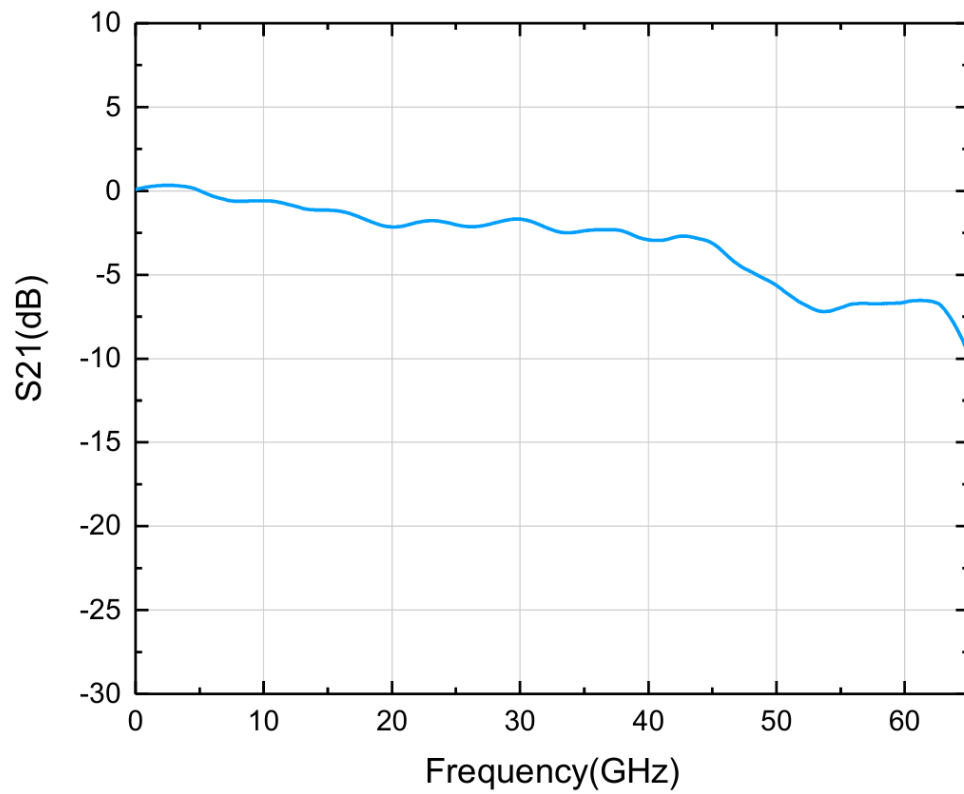
Parameter

Parameters	Symbol	Performance	Unit
Operating Wavelength	λ	1530~1565	nm
Optical Insertion Loss	IL	≤ 5.5	dB
Optical Extinction Ratio	ER	≥ 25	dB
Optical Return Loss	RL	≤ -26	dB
Optical Input Power	P _{in}	≤ 200	mW
Bandwidth (3dB)	BW	20/40	GHz
RF Half-wave Voltage@50KHz	V π	≤ 3.5	V
RF Return Loss	S ₁₁	≤ -10	dB
RF Input Power	S _{in}	≤ 23	dBm
Heater Bias Half-wave Power	P π	50(30)	mW
Heater Bias Voltage	U _{heater}	< 8	V
Operating Temperature	T _O	-55~85	°C
Storage Temperature	T _S	-55~85	°C

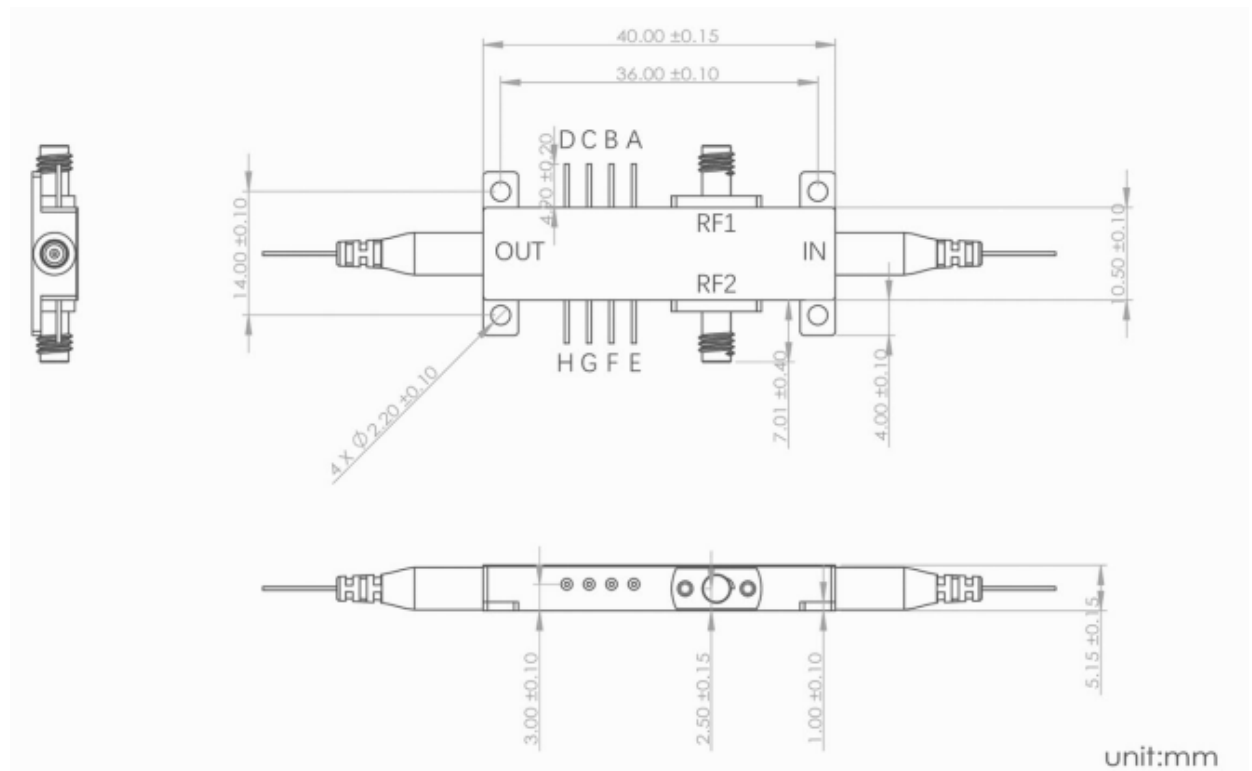




Characteristic curve



Size





Pin

Pin	Function	Description
IN	Input Fiber	PM 1550 Polarization-maintaining fibers , length 0.6m
OUT	Output Fiber	SM 1550 Standard single mode fiber, length 0.6m
RF1/2	RF1/2 Input Port	1.85mm female
A	DC Pin A	Heater bias electrode, anode (I branch)
B	DC Pin B	Heater bias electrode, cathode (I branch)
C	DC Pin C	Heater bias electrode, anode (Main MZM)
D	DC Pin D	Heater bias electrode, cathode (Main MZM)
E	DC Pin E	Heater bias electrode, anode (Q branch)
F	DC Pin F	Heater bias electrode, cathode (Qbranch)
G	DC Pin G	Spare Heater bias electrode, anode (Main MZM)
H	DC Pin H	Spare Heater bias electrode, cathode (Main MZM)

Ordering

R	TFLN	IQ	XX	XXG	XX	XX
	Type: TFLN --- Lithium niobate thin film	Type: IQ ---IQ modulator	Wavelength: 15---1550nm	Bandwidth: 20G---20GHz 40G---40GHz	In-Out Fiber type: PP---PM/PM	Optical connector: FA---FC/APC FP---FC/PC SP---Customization

We can also support the Low half-wave voltage TFLN IQ modulator (R-TFLN-UV-IQ-15-20G).



R-TFLN-UV-IQ-15-20G

Parameters	Symbol	Performance	Unit
Operating Wavelength	λ	1530~1565	nm
Optical Insertion Loss	IL	≤ 6	dB
Optical Extinction Ratio	ER	≥ 25	dB
Optical Return Loss	RL	≤ -26	dB
Optical Input Power	P _{in}	≤ 200	mW
Bandwidth (3dB)	BW	20	GHz
RF Half-wave Voltage@50KHz	V π	≤ 2.5	V
RF Return Loss	S ₁₁	≤ -10	dB
RF Input Power	S _{in}	≤ 23	dBm
Heater Bias Half-wave Power	P π	50(30)	mW
Heater Bias Voltage	U _{heater}	< 8	V
Operating Temperature	OT	-55~85	°C
Storage Temperature	ST	-55~85	°C