



# R-PM Series Phase Modulator



## Description

The LiNbO<sub>3</sub> phase modulator is widely used in high-speed optical communication system, laser sensing and ROF systems because of well electro-optic effect. The R-PM series based on Ti-diffused and APE technology, has stable physical and chemical characteristics, which can meet requirement of the most applications in laboratory experiments and industrial systems.

### Features

- Low insertion loss
- Polarization-maintaining
- Low half-wave voltage
- Dual-polarization option

### Applications

- Optical communication
- Quantum key distribution
- Laser sensing systems
- Frequency shifting

### Wavelength

- 780nm
- 850nm
- 1064nm
- 1310nm
- 1550nm

### Bandwidth

- 300MHz
- 10GHz
- 20GHz
- 40GHz
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Rof-PM Series	Rof-PM-07	Rof-PM-08	Rof-PM-10	Rof-PM-13	Rof-PM-15
Operating wavelength	780nm	850nm	1064nm	1310nm	1550nm
3dB Bandwidth	~10GHz	~10GHz	~10GHz	~10GHz	~10/20/40GHz
Insertion Loss	<3.5dB	<3.5dB	< 3.5dB	< 3.5dB	< 3.5dB
PER	> 20dB	> 20dB	> 20dB	> 20dB	> 20dB
V <sub>π</sub> @RF (50KHz)	< 3V	< 3V	< 2.0V / <4.0V	< 3V	< 4V

### Ordering Information

Rof	PM	15	10G	XX	XX
	Type: PM---Phase Modulator	Wavelength: 07---780nm 08---850nm 10---1060nm 13---1310nm 15---1550nm	Operating bandwidth: 300M---300MHz 10G---10GHz 20G---20GHz 40G---40GHz	In-Out Fiber type: PP---PM/PM PS---PM/SMF SS---SMF/SMF	Optical connector: FA---FC/APC FP---FC/PC SP---Customization

**R-PM-13-10G****Wavelength 1310nm 10GHz Phase modulator**

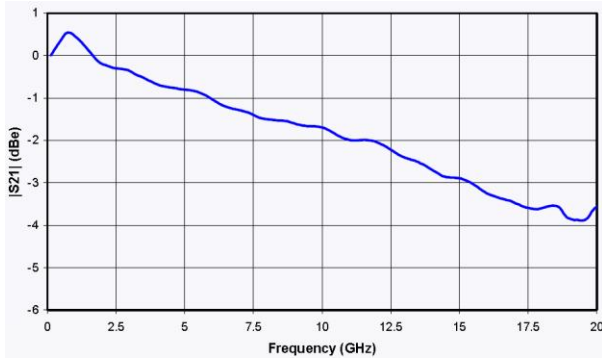
Parameter	Symbol	Min	Typ	Max	Unit
<b>Optical parameters</b>					
Operating wavelength	$\lambda$	1290	1310	1310	nm
Insertion loss	IL		3.5	4	dB
Optical return loss	ORL			-45	dB
Polarization extinction ratio	PER	20			dB
Optical fiber	Input port		PM fiber(125/250 $\mu$ m)		
	output port		PM fiber(125/250 $\mu$ m)		
Optical fiber interface		FC/PC、FC/APC Or Customization			
<b>Electrical parameters</b>					
Operating bandwidth (-3dB)	$S_{21}$	8	10		GHz
Half-wave voltage @50KHz	$V_{\Pi}$		2.7	3	V
Electrical return loss	$S_{11}$		-12	-10	dB
Input impedance	$Z_{RF}$	50			$\Omega$
Electrical interface		K(f)			

**Limit Conditions**

Parameter	Symbol	Unit	Min	Typ	Max
Input optical power	$P_{in,Max}$	dBm			20
Input RF power		dBm			33
Operating temperature	$T_{op}$	$^{\circ}$ C	-10		60
Storage temperature	$T_{st}$	$^{\circ}$ C	-40		85
Humidity	RH	%	5		90

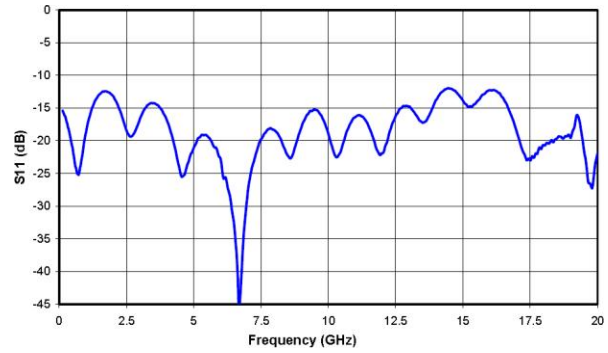


**S21 Curve**



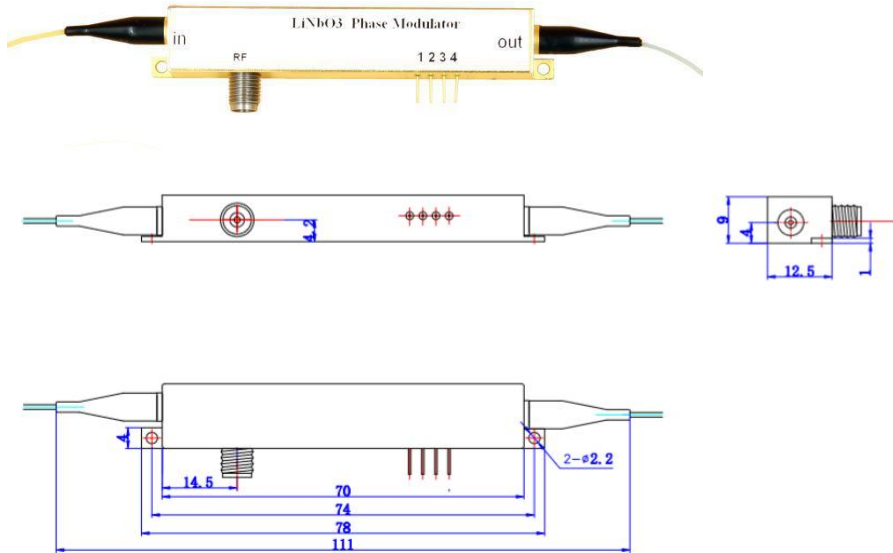
**S21 Curve**

**&S11 Curve**



**S11 Curve**

**Mechanical Diagram**



PORT	Symbol	Note
In	Optical input port	PM Fiber (125μm/250μm)
Out	Optical output port	PM and SMF option
RF	RF input port	SMA(f)
Bias	Bias control port	1,2,3,4-N/C

RF Driver and Bias control circuit board information are provided on website ([www.bjrofec.com](http://www.bjrofec.com)), you can also contact us for more information by email ([bjrofec@rof-oc.com](mailto:bjrofec@rof-oc.com)) or WhatsApp (+86-18978968297)