



# AM Series Intensity Modulator



## Description

The LiNbO<sub>3</sub> intensity modulator is widely used in high-speed optical communication system, laser sensing and ROF systems because of well electro-optic performance. The R-AM series based on MZ push-pull structure and X-cut design, has stable physical and chemical characteristics, which can be applied both in laboratory experiments and industrial systems.

### Features

- Low insertion loss
- High Bandwidth
- Low half-wave voltage
- Customization option

### Applications

- ROF systems
- Quantum key distribution
- Laser sensing systems
- Side-band modulation

### Wavelength

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

### Bandwidth

- 10GHz
- 20GHz
- 40GHz
- 50GHz

Rof-AM Series	Rof-AM-07	Rof-AM-08	Rof-AM-10	Rof-AM-13	Rof-AM-15			
Operating wavelength	780nm	850nm	1064nm	1310nm	1550nm			
Bandwidth	10GHz	10GHz	10/20GHz	2.5GHz	50GHz	10GHz	20GHz	40GHz
Insertion Loss	<5dB	<5dB	< 5dB	< 5dB	< 4dB			
Extinction ratio @DC	> 20dB							
V <sub>π</sub> @RF (1KHz)	< 3V	< 3V	< 4V	<3.5V	< 6V	<5V		
V <sub>π</sub> @Bias	< 3.5V	< 3.5V	< 5V	<5V	<8V	<7V		

**R-AM-07-10G****Wavelength 780nm 10GHz Intensity modulator**

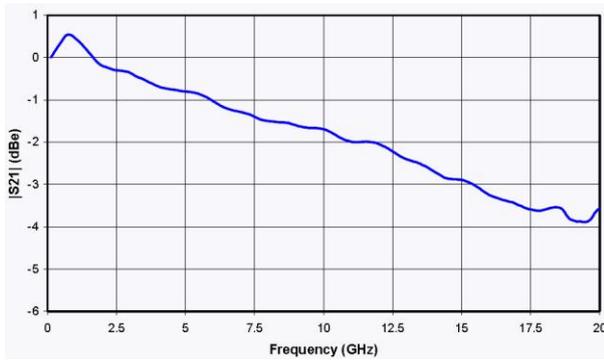
Parameter	Symbol	Min	Typ	Max	Unit
<b>Optical parameters</b>					
Operating wavelength	$\lambda$	760	780	800	nm
Insertion loss	IL		4.5	5	dB
Optical return loss	ORL			-45	dB
Switch extinction ratio @DC	ER@DC	20	23		dB
Optical fiber	Input port	PM780 fiber(125/250 $\mu$ m)			
	output port	PM780 fiber(125/250 $\mu$ m)			
Optical fiber interface		FC/PC、FC/APC Or Customization			
<b>Electrical parameters</b>					
Operating bandwidth (-3dB)	$S_{21}$	10	12		GHz
Half-wave voltage $V_{\pi}$	RF	@1KHz	2.5	3	V
	Bias	@1KHz	3	4	V
Electrical return loss	$S_{11}$		-12	-10	dB
Input impedance	RF	$Z_{RF}$	50		$\Omega$
	Bias	$Z_{BIAS}$	1M		$\Omega$
Electrical interface		SMA(f)			

**Limit Conditions**

Parameter	Symbol	Unit	Min	Typ	Max
Input optical power	$P_{in,Max}$	dBm			20
Input RF power		dBm			28
bias voltage	$V_{bias}$	V	-15		15
Operating temperature	$T_{op}$	$^{\circ}$ C	-10		60
Storage temperature	$T_{st}$	$^{\circ}$ C	-40		85
Humidity	RH	%	5		90

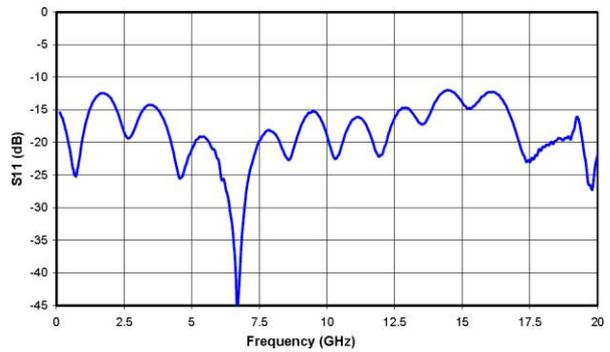


### S21 Curve



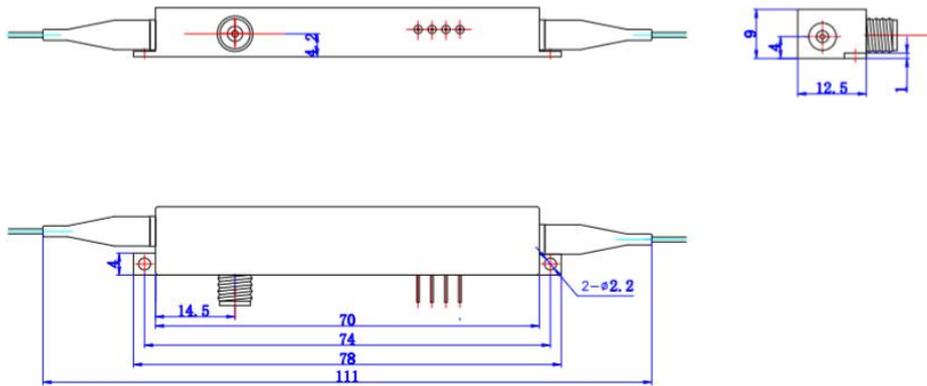
S21 Curve

### &S11 Curve



S11 Curve

### Mechanical Diagram



### ordering information:

Rof	AM	XX	XXG	XX	XX	XX
	Type: AM---Intensity Modulator	Wavelength: 07---780nm 08---850nm 10---1060nm 13---1310nm 15---1550nm	Bandwidth: 10G---10GHz 20G---20GHz 40G---40GHz 50G---50GHz	Monitor PD: PD---With PD 00 --- No PD	In-Out Fiber type: PP---PM/PM	Optical connector: FA---FC/APC FP---FC/PC SP---Customization

**please contact me if you have special requirement**

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)