



# 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

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

### Bandwidth

- 300MHz
- 2.5GHz
- 10GHz
- 20GHz

Operating wavelength	850nm	1064nm	1310nm	1550nm	
3dB Bandwidth	~10GHz	~10GHz	~10GHz	~10GHz	~20GHz
Insertion Loss	<5dB	<5dB	<5dB	<5dB	
Extinction ratio @DC	>23dB	>23dB	>23dB	>23dB	
V <sub>π</sub> @RF (1KHz)	<3V	<4V	<4.5V	<5.5V	<6V
V <sub>π</sub> @Bias	<3.5V	<5V	<6V	<7V	

### Ordering Information

R	AM	15	10G	XX	XX
	<b>Type:</b> AM---Intensity Modulator	<b>Wavelength:</b> 08---850nm 10---1060nm 13---1310nm 15---1550nm	<b>3dB bandwidth:</b> 2.5G---10GHz 10G---10GHz 20G---20GHz 40G---28GHz	<b>In-Out Fiber type:</b> PP---PM/PM PS---PM/SMF	<b>Optical connector:</b> FA --- FC/APC FP --- FC/PC SP --- Customization

**R-AM-15-10G****Wavelength 1550nm 10GHz Intensity modulator**

Parameter		Symbol	Min	Typ	Max	Unit
<b>Optical parameters</b>						
Operating wavelength		$\lambda$	1530	1550	1565	nm
Insertion loss		IL		4	5	dB
Optical return loss		ORL			-45	dB
Switch extinction ratio @DC		ER@DC	20	25	45	dB
Dynamic extinction ratio		DER		13		dB
Optical fiber	Input port		Panda PM Fujikura SM			
	output port		Panda PM Fujikura SM			
Optical fiber interface			FC/PC、FC/APC Or user to specify			
<b>Electrical parameters</b>						
Operating bandwidth (-3dB)		$S_{21}$	10	12		GHz
Half-wave voltage $V_{\pi}$	RF	@50KHz		4.5	5	V
	Bias	@Bias		6	7	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)			

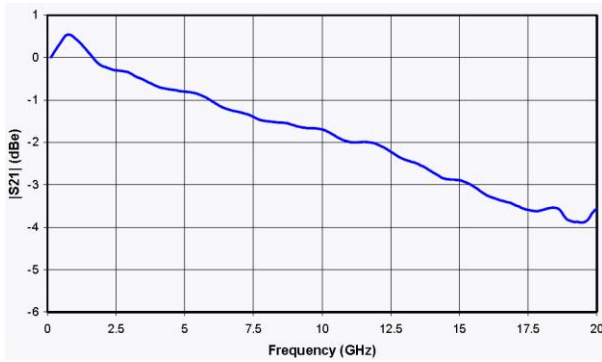
**Limit Conditions**

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

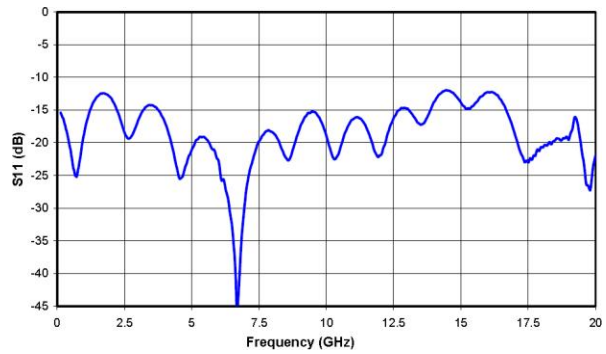


### S21 Curve

### &S11 Curve

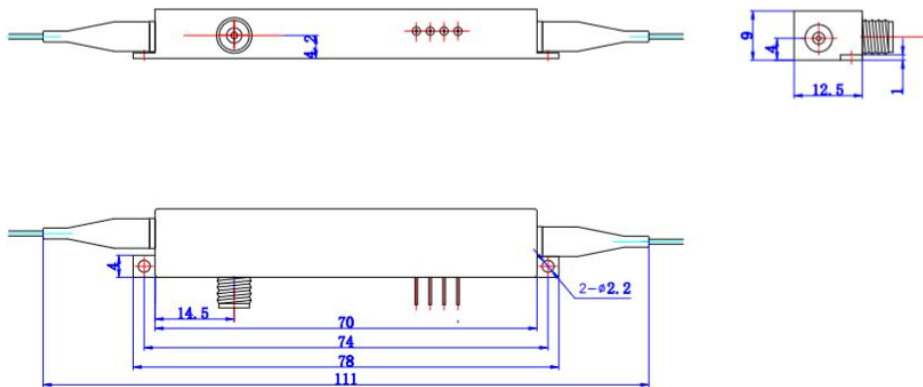


S21 Curve



S11 Curve

### Mechanical Diagram



### ordering information:

ROF	AM	10	XX	XX	XX
	Modulator type : AM---intensity modulator	Operating wavelength : 10---1064nm	Operating bandwidth : 2.5G---2.5GHz 10G---10GHz 20G---20GHz	Input output optical fiber: PS---PM/SMF PM--- PM/PMF	Connector: FA---FC/APC FP---FC/PC SP---user specified

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

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