



High stability Electro-optical intensity modulator

Rof-AMBox Electro-optical intensity modulator is a highly integrated product owned by Rofea with independent intellectual property rights. The instrument integrates electro-optical intensity modulator, microwave amplifier and its driving circuit into one, which not only facilitates the use of users, but also greatly improves the reliability of MZ intensity modulator, and can provide customized services according to user requirements.



Product characteristics

- Low insertion loss
- High operating bandwidth
- Adjustable gain and offset operating point
- AC 220V
- Easy to use, optional light source

Application field

- High speed external modulation system
- Teaching and experimental demonstration system
- Optical signal generator
- Optical RZ, NRZ system

Performance parameter

parameter	symbol	Minimum value	Typical value	Maximum value	unit
Optical parameter					
*Operating wavelength	λ	1525		1565	nm
**Insertion loss	IL		4	5	dB
light return loss	ORL			-45	dB



Optical fiber	Input port		Panda PM fiber			
	Output port		PM fiber or SM fiber			
Optical connector			FC/PC、FC/APC or User specified			
Electrical parameter						
Data processing rate			12.25	43	Gbps	
*** -3dB bandwidth	S21	10	-	28	GHz	
**** Low cutoff frequency	f_{low}		100		KHz	
Half-wave voltage @DC	$V_{\pi@DC}$		6	7	V	
Half-wave voltage @RF	$V_{\pi@RF}$		5	6	V	
Electric return loss	S11		-12	-10	dB	
RF input impedance			50		Ω	
Input signal voltage range	V_{in}	500		1000	mV	
Gain control range		0		25	dB	
Adjustment accuracy			1		dB	
Bias voltage adjustment range		-7		7	V	
Adjustment accuracy			0.1		V	
Electrical interface	SMA					
Power Supply	AC220					

* 850、1064nm、1310nm The operating wavelength is optional

**Insertion loss refers to the insertion loss of modulator, excluding the loss of flange and coupler

***The 3dB bandwidth can be 10G, 20G, or 40G, and the higher bandwidth can be customized

****If lower cutoff frequency is required, please specify

Light source indicator (optional)

parameter	symbol	Minimum value	Typical value	Maximum value	unit
Operating wavelength	λ	1525	1550	1565	nm
Optical output power	P_o	-	10	16	dBm
3dB spectral width	$\Delta\lambda^*$	-	2	10	MHz
Side Mode Suppression Ratio	SMSR	30	45	-	dB
Relative noise intensity	RIN	-	-160	-150	dB/Hz
** Power stability	P_{SS}	-	-	± 0.005	dB/5min
	P_{LS}	-	-	± 0.01	dB/8h
Output isolation	ISO	30	35	-	dB

* The wire width is optional: <1M, <200KHz

** Test condition: CW, Temperature variation $\pm 2^\circ\text{C}$

***850、1064nm、1310nm The operating wavelength is optional

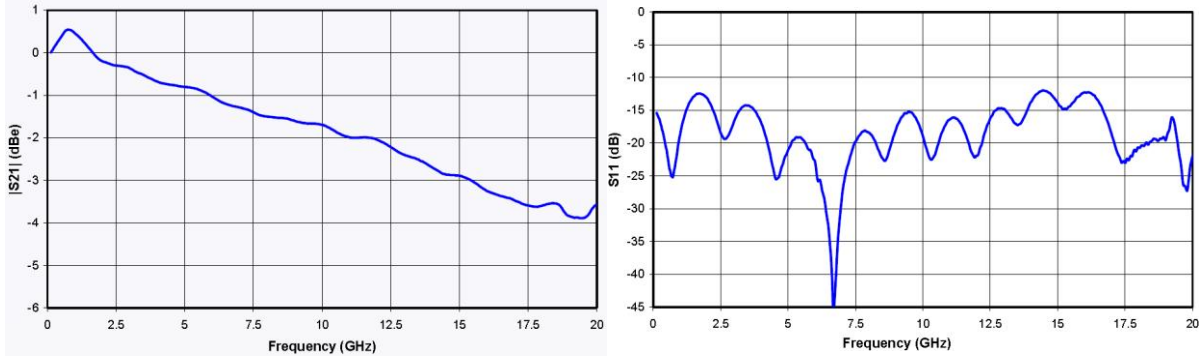
Limiting condition

project	symbol	Minimum value	Maximum value	unit
Operating temperature	T_{op}	-5	60	$^\circ\text{C}$
Storage temperature	T_{st}	-40	85	$^\circ\text{C}$



humidity	RH	10	85	%
input optical power	Pin	-	20	dBm
Amplitude of input electrical signal	Vpp	-	1	V

Characteristic curve



S₁₁&S₂₁

Ordering information

Rof	AMBOX	XX	10G	XX	XX
	Modulator type	Operating wavelength	Operating bandwidth	Input-output fiber	connector
	AMBOX---Intensity modulator	15---1550nm	10G---10GHz	PS---PM/SMF	FA---FC/APC
		13---1310nm	20G---20GHz	PP---PM/PM	FP---FC/PC
		10---1064nm	40G---28GHz		SP---User specified
		08---850nm			

*If you have any special requirements please contact our sales staff