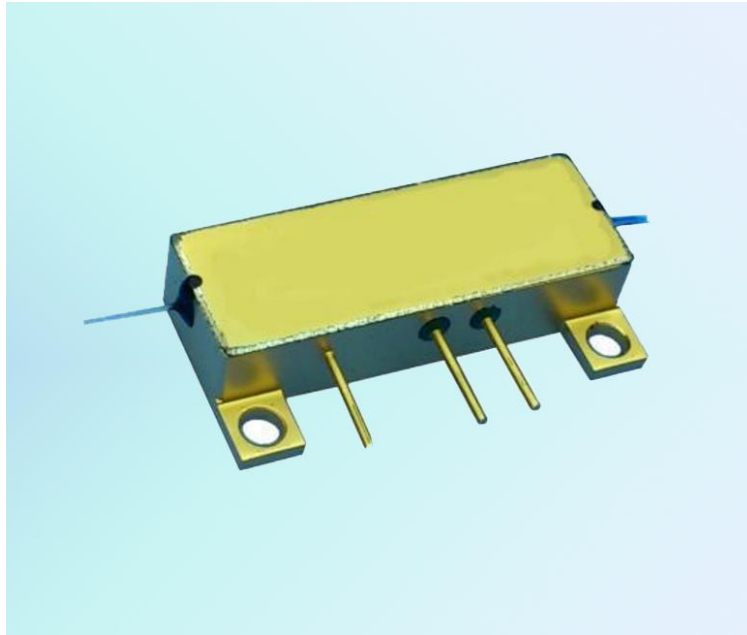




## R-MIOC Series Y-Waveguide Modulator



### Description

The R-MIOC Series Y-Waveguide Modulator is a  $\text{LiNbO}_3$  multifunctional integrated optical circuit ( $\text{LiNbO}_3$  MIOC) based on microelectronic technology, which can achieve polarizer and analyzer, beam splitting and combining, phase modulation and other function. The waveguides and electrodes are fabricated on  $\text{LiNbO}_3$  chip, the output and input fibers are precisely coupled with the waveguides, then the whole chip is encapsulated in a gold-plated Kovar housing to obtain well performance and high reliability.

### Features

- X-cut, low insertion loss
- APE waveguide, high polarization extinction ratio
- Push-pull electrode, low half-wave voltage
- Well long-term stability and small package size

### Applications

- Fiber optical gyroscope (FOG)
- Fiber Optic Current Sensor (FOCS)
- Hydrophones and other optical fiber sensing fields

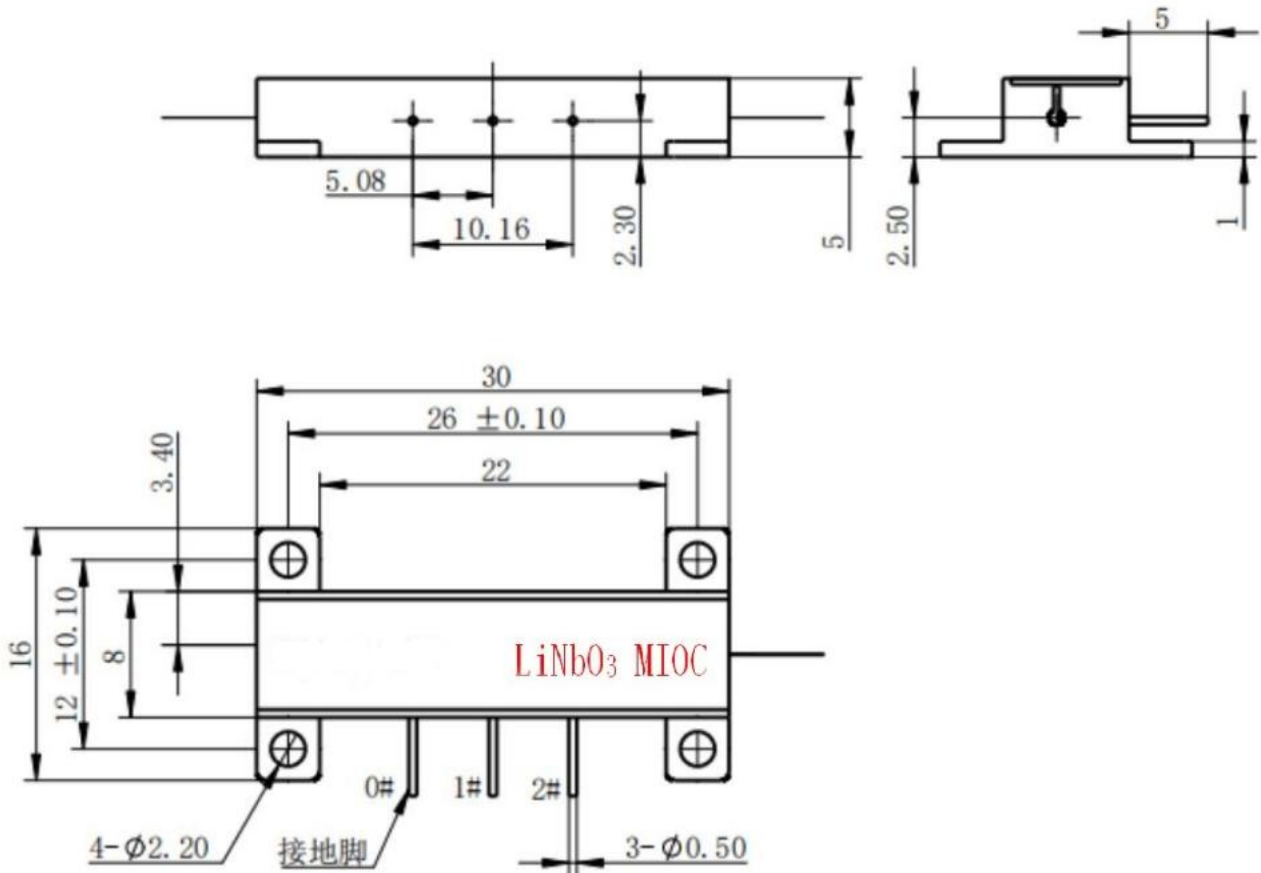


Parameters

Category	Parameter	Symbol	Unit	Numerical value	
Optical parameters	Operating wavelength	$\lambda$	nm	1290~1330	1530~1570
	Insertion loss	IL	dB	$\leq 3.5$	
	Change of insertion loss at full temperature	$\Delta IL$	dB	$\leq 0.5$	
	Coupling Ratio	D	%	$50 \pm 2$	
	Change rate of spectral ratio at full temperature	$\Delta D$	%	$\leq 3.0$	$\leq 2.0$
	Backward light reflection	RL	dB	$\leq -55$	
	Residual Intensity Modulation	RIM		$\leq 1/1000$	
	Ambient temperature pigtail polarization crosstalk	PER	dB	$\leq -30$	
	Full temperature pigtail polarization crosstalk	PER <sub>T</sub>	dB	$\leq -25$	
Electrical parameters	Half wave voltage	$V_{\pi}$	V	$\leq 3.5$	$\leq 4.0$
	Waveform slope	S		$\leq 1/250$	
	Bandwidth	BW	MHz	$\geq 500$	
Packaging structure	Packaging form			Metal or ceramic	
	Device size (excluding pins)		mm	30×8×5	
	Pigtail type			Small mode field (6.0mm) PM Fiber	PM Fiber
	Fiber length	L	m	$\geq 1.0$	$\geq 1.2$
Environmental indicators	Working temperature	$T_w$	°C	-45~+70	
	Storage temperature	$T_s$	°C	-55~+85	



Mechanical Diagram



Ordering information

KG	MIOC	XX	XX	XX
	Multifunctional integrated optical device	Wavelength: 13---1310nm 15---1550nm	In-Out Fiber type: PP---PM/PM	Optical connector: FA---FC/APC FP---FC/PC N---No connector