

1550nm 系列多功能集成光波导调制器

1550 nm multi-functional integrated optical device



多功能集成光波导调制器（Y 波导）具有起偏与检偏、分束与合束以及电光相位调制等功能。

具有插入损耗低、偏振消光比高、电光相位调制线性度高的特点。采用微电子工艺和微光学工艺制作、保偏光纤对准耦合封装技术生产，也可以按照客户的要求定制不同工作波长、不同封装形式等特殊规格的器件。

multi-functional integrated optics chip (MIOC) includes a linear polarizer, acts as polarizer and depolarizer; a Y-branch waveguide, acts as optical power splitter and combiner.

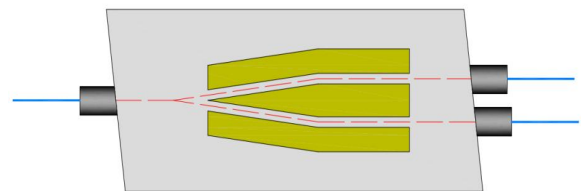
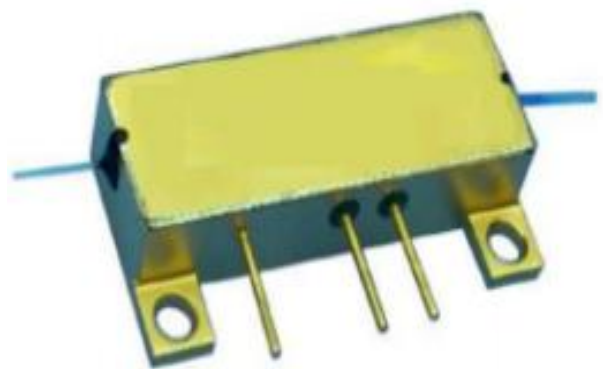
Multi-Functional Integrated Optics Chip (MIOC) has the characteristics of high reliability, low insertion loss, high polarization extinction ratio. Micro-electronic and micro-optical processes, and fiber pigtail precision alignment are taken in the MIOC. Other wavelength band or package type can also be customized.

主要特点 Features

- 插入损耗低 Low Insertion Loss
- 偏振消光比高 High Polarization Extinction Ratio
- 温度相关损耗变化小 Small Temperature Dependent Loss
- 电光相位调制线性度高 High Electro-optic Phase Modulation Linearity
- 可靠性高 High Reliability

应用领域 Applications

- 光纤陀螺 Fiber Optic Gyroscope (FOG)
- 光纤电流传感 Fiber Optic Current Transformer (FOCT)
- 其它光纤传感 Other Fiber Optic Sensing



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性能参数:

类别 Type	参数 Parameter	符号 Symbol	单位 Unit	性能指标 (典型值) Typical Value	
				Perfect	General
光学性能 Optical	工作波段 Operating Wavelength Band	λ_c	nm	1550 ± 20	
	插入损耗 Insertion Loss	IL	dB	≤ 3.5	≤ 4.0
	全温损耗变化 Insertion Loss Change @ Full Working Temperature Range	ΔIL	dB	≤ 0.35	≤ 0.5
	分光比 Splitter Ratio	D	%	50 ± 1.5	50 ± 3
	全温分光比 Splitter Ratio Change @ Full Working Temperature Range	ΔD	%	≤ 2	≤ 3
	回损 Return Loss	RL	dB	≤ -55	
	残余强度调制 Remain Intensity Modulate	RIM	-	$\leq 5/10000$	$\leq 2/1000$
	尾纤偏振串音 Pigtail Polarization Extinction Ratio	PER	dB	≤ -30	≤ -30
	全温尾纤偏振串音 Pigtail Polarization Extinction Ratio @ Full	PER_T	dB	≤ -27	≤ -25

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	Working Temperature Range				
电学性能 Electrical	半波电压 Half Wave Voltage	V_{π}	V	≤ 3.5	≤ 4.0
	波形斜率 Slope of Modulate Waveform	S	-	$\leq 1/250$	$\leq 1/250$
	调制带宽 Bandwidth	BW	MHz	≥ 300	
封装结构 Package	封装形式 Package Type	-	-	见产品图纸 See package shape structure	
	器件尺寸(不含引脚) Mechanical Size	-	mm	见产品图纸 See package shape structure	
	尾纤类型 Fiber Pigtail Type	-	-	PM, 125 μ m/80 μ m	
	尾纤长度 Fiber Length	L	m	1.2	
环境指标 Environment	工作温度 Working Temperature Range	T_w	$^{\circ}\text{C}$	-45~+70	
	储存温度 Storage Temperature Range	T_s	$^{\circ}\text{C}$	-55~+85	

