Polarization Maintaining 1x2 DWDM Filter

Description

A polarization-maintaining 1×2 DWDM filter is a three-port polarization-maintaining DWDM filter device, typically consisting of one common port and two branch ports. It is used in polarization-maintaining fiber systems to add/drop, separate, or combine specified ITU DWDM channels while preserving the polarization state of the optical signal as much as possible. Simply put, it can extract a specific DWDM wavelength from a multi-wavelength polarization-maintaining optical path, or add a DWDM channel to the main optical path while allowing other wavelengths to continue through the other port. Compared to a standard Single Mode 1×2 DWDM filter, the polarization-maintaining version not only focuses on wavelength selection, insertion loss, and channel isolation, but also needs to maintain consistency in the slow or fast axis direction. Therefore, it is more suitable for PM fiber communication systems, fiber lasers, optical amplifiers, coherent optical systems, polarization-sensitive test setups, and DWDM add/drop modules.

Features

Low Insertion Loss
High Extinction Ratio
High Stability and Reliability

Applications

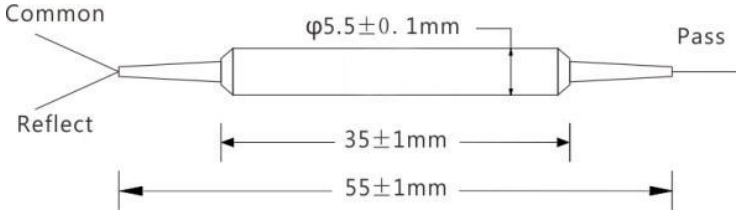
Wavelength Division System
Fiber Optic Amplifier
Fiber Optic Communication

Specifications

Parameter	Unit	Value		
Common Channel Wavelength	nm	ITU Grid		
Pass Channel Wavelength	nm	C01/C02/C03/Custom		
Wavelength Accuracy	dB	±0.05	±0.05	±0.1
Channel Spacing	dB	50	100	200
Channel Passband (Min.)	nm	0.20 (@-1dB)	0.22 (@-0.5dB)	0.5 (@-0.5dB)
Pass Channel Insertion Loss (Max.)	dB	0.8	1.0	0.9
Pass Channel Isolation (Min.)	dB	30		
Reflect Channel Insertion Loss (Max.)	dB	0.4	0.6	0.5
Reflect Channel Isolation (Min.)	dB	13		
Extinction Ratio (Min.)	dB	18	20	
Return Loss (Min.)	dB	45		
Max Optical Power (CW)	W	0.3/1/2/5/10		
Fiber Type	-	PM1550		
Working Axis	-	Both Axis		
Package Dimensions	mm	Φ5.5 x L35		
Operating Temperature	°C	-5 to +70		
Storage Temperature	°C	-20 to +85		

Notes: Tested at 25 °C. Data exclude connectors. Adding connectors will increase insertion loss by approximately 0.3 dB, reduce return loss by 5 dB, and decrease extinction ratio by 2 dB. The fiber slow axis is aligned to the key by default.

Product Dimensions



Ordering Information

□GHz	□nm	□W	□	□	□m	□μm	□
Channel Spacing	**Pass Channel Wavelength**	**Max Optical Power (CW)**	**Working Axis**	**Fiber Type**	**Pigtail Length**	**Pigtail Diameter**	**Connector**
50GHz	C01	0.3W	Both Axis	PM1550	0.5m	250μm Bare Fiber	None
100GHz	C02	1W			1.0m	900μm Loose Tube	LC/UPC
200GHz	C03	2W			1.5m		LC/APC
	Custom	5W			2.0m		SC/UPC
		10W					SC/APC
							FC/UPC
							FC/APC
							ST/UPC
							ST/APC