Mini Manual Etalon-Based Fiber Optic Tunable Filter

(low loss, polarization insensitive, 1nm bandwidth)

Features

- Compact
- Low Cost
- Low Loss
- Low PDL

Applications

- DWDM networks
- Fiber Sensing
- ASE control
- Tunable Fiber Laser

Product Description

Agiltron offers Miniature Fiber Optic Tunable Filters featuring polarization insensitive, low loss, and low cost with central wavelengths of 780 to 2000nm. This version offers a low optical loss platform that locks onto a desired wavelength with a small tuning. For communication bands, it uses standard WDM filters. For other wavelength band, special filter is required (produced under NRE). This version is cost effective for volume system applications. It is tunable continuously. The wavelength tuning is made by manually rotating a screw. A position locking screw is incorporated. The center wavelength and the bandwidth can be customized in accordance with the requirements. High average power handing up to 10W is available. Agiltron's unique high reliability and low insertion loss design presents a most cost-effective solution for OEM applications from fiber lasers, optic networks, fiber sensing system.

Performance Specifications

Parameter		Min	Typical	Max	Unit
Center Wavelength			780, 850, 1060, 1310, 1550, 2000		nm
Tuning Range		10	20	80	nm
Tuning Resolution		-	0.1	-	nm
Insertion Loss [1]		0.8 [2]	1 [2]	3	dB
Bandwidth @-3dB		-	1	1.2	nm
Bandwidth @-20dB		-	10	-	nm
Off-Band Suppression		-	30	-	dB
PDL (SM fiber only)		0.15	0.2	0.5	dB
PMD (SM fiber only)		-	-	0.5	ps
Extinction Ratio (PM fiber only)		18	23	-	dB
Return Loss		40	-	-	dB
Optical Power Handling (CW)	Standard version	-	0.5		W
	High power version		10		W
Operating Temperature		0	20	60	° C
Storage Temperature		-10	-	70	° C

[1]. Measured using a broadband light source with integration of the transmission peak. If the laser source does not matching the filter profile, extra loss can occur. Special filter can be made to match the application. Smaller the fiber core, higher the loss. Excluding connector loss

[2]. Low loss is only achievable within a small tuning range using specially made filter

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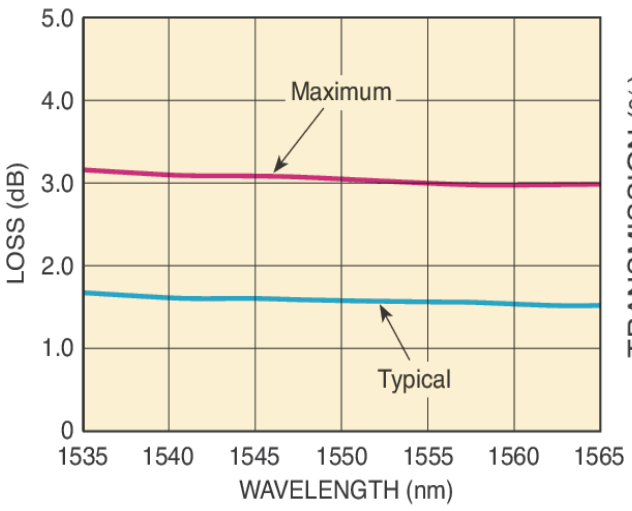
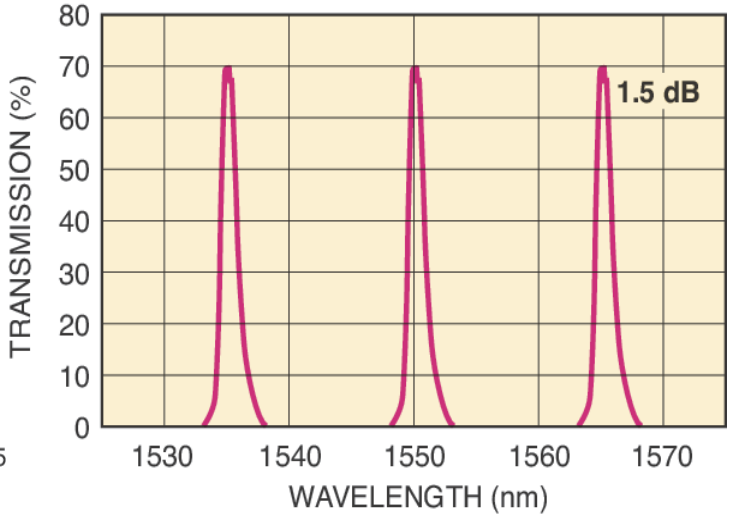
Mechanical Dimension (mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Typical Transmission Curve





Ordering Information

FOTF-	5	☐	☐	☐	5	☐	☐	☐	☐
	Type	Wavelength	Tuning Rang	Power Handling	Package	Fiber Type		Fiber Length	Connector
		2000nm = 2 1310nm = 3 1550nm = 5 1060nm = 6 850nm=8 750nm=7 Special = 0	10nm = 1 20nm=2 30nm = 3 50nm = 5 800nm=8	0.5W = 1 5W = 2 10W =3 Special =0		SMF-28 = 1 HI1060 = 2 PM980 = 3 PM1550 = 4 Special = 0	Bare fiber =1 900um tube=3 Special=0	0.25m= 1 0.5m = 2 1.0 m= 3 Special =0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 LC = 7 Special = 0

Red – Special Order

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How to test insertion loss of a tunable filter

1. Connect a broadband fiber-coupled laser source to OSA, sweep one time over the specified range of the tunable filter, then fix the curve in Trace A as reference.

2. Connect the broadband laser source to the fiberoptic tunable filter fiber as input, then connect the other fiber port of the tunable filter as the output to the OSA.

3. Set OSA Trace B as 'write,' Trace C as 'Calculate: B-A.' Auto sweep Trace C from the specific range. Tune the micrometer to shift the peak at a different wavelength. Use 'Peak search' to record IL at a different wavelength.