Widely Tunable Fiber Fabry-Perot Filter | FFP-TF2 9000

Applications

- Tunable Channel Drop for Coarse WDM
- Optical Performance Monitoring for CWDM
- Tunable Optical Noise Filtering and Channel Locking
- Full-Band Optical Spectroscopy

Features

- Wide tuning range from 1280 to 1620 nm
- Ideal for low cost, high volume applications
- High resolution for precise spectrum analysis
- Large dynamic range permits accurate measurements
- Efficient low loss design
- Wide ranges of user-specified parameters
- Thermally stable
- Vibration and shock resistant
- Small footprint
- Low power requirements
- Qualified for Telcordia GR 2883

Description

The Micron Optics FFP-TF2 9000 Fiber Fabry-Perot (FFP) tunable filter provides an unique opportunity for the system designer to design-in just one tunable filter in an application previously incorporating multiple filters. The Free Spectral Range (FSR) of this unique filter can be as wide as 340nm allowing tunability from just one period of the frequency comb across the entire telecom spectrum.

The key to the elegant design of the FFP tunable filter is the lensless fiber construction. There are no collimating optics or lenses, thus the FFP tunable filter achieves high finesse and maintains a low loss transmission profile. Micron Optics has eliminated the pitfalls of other Fabry-Perot component technologies, including misalignment, environmental sensitivity, and extraneous modes.

The new widely tunable filter is a specialized filter based on the all-fiber Fabry-Perot etalon technology. The FFP tunable filter passes wavelengths that are equal to integer fractions of the cavity (etalon) length; all other wavelengths are attenuated according to the Airy function.

Products displaying the "Micron Optics Tuned" logo include Micron Optics tunable technologies insuring high quality and performance.

1

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Specifications [1]

	FFP-TF2 9000	
	Finesse = 750	Finesse = 3000

Optical Properties

Operating Wavelength Range [2] Full Band (O, E, S, C & L Bands)	1280 - 1620 nm	
Free Spectral Range	51,000 GHz (340 nm)	
Standard Finesse Values (nominal)	750	3000
3dB Bandwidth		
1280 nm to 1300 nm	< 300 pm	< 300 pm
1300 nm to 1600 nm	< 400 pm	< 50 pm
1600 nm to 1620 nm	< 350 pm	< 120 pm
Insertion Loss [3]	< 3.0 dB	
Polarization Dependent Loss [3]	<0.2 dB	
Input Power (Maximum) [4]	< 40 mW	< 10 mW

Electrical Properties

Tuning Voltage/FSR	< 18 V
Capacitance	< 3.0 µF
Slew Rate	< 90 V/ms
Cycling Speed Over 1 FSR	800 Hz (max)
Maximum Tuning Voltage	70 V

Mechanical Properties

Dimensions	13.5 mm x 25.8 mm x 57.2 mm
Weight	53 g
Mounting Holes	(4) #1-72 UNF x 0.16 inch deep
Pigtail Jacket (loose)	900 µm buffer tubing
Pigtail Length	>1 m
Connector	See Options

Environmental Properties [3,5]

Operating Temperature	-20° to 80°C
Δ Insertion Voltage/Operating Temperature	< 18 V
Δ Insertion Loss/Operating Temperature (dependent on FSR)	< 0.5 dB
Δ Insertion Loss/Vibration	< 0.5 dB

Notes:

1. Specifications are for 2 standard filter configurations. Please contact Micron Optics for custom specifications.
2. Other non-telecom wavelengths are available. Please contact Micron Optics for specifications.
3. Typical value; final value is dependent on Free Spectral Range and Finesse.
4. Maximum input power level depends on finesse value. Generally, the higher the finesse, the lower the maximum input power level.
5. These parameters are not available for all possible configurations. Please contact Micron Optics for details.

Ordering Information

FFP-TF2 9000 - bbbufffff - ii   (Example: FFP-TF2 9000 - 6.3G3000-3.0)

bbb: Average Bandwidth	u: Bandwidth Unit	ffff: Finesse	ii: Insertion Loss
Specify bandwidth (i.e: 6.3 = 6.3GHz)	G GHz M MHz	Specify finesse (i.e: 3000=Finesse of 3000)	Specify Loss (i.e: 3.0 = 3.0dB loss)

Options

030 Low Variation Bandwidth*	060 FC/SPC Connectors (Fusion Spliced)	062 SC/SPC Connectors (Fusion Spliced)	065 FC/APC Connectors (Connectorized)
* Please verify specifications with Micron Optics.	061 FC/APC Connectors (Fusion Spliced)	063 SC/APC Connectors (Fusion Spliced)	069 Other Connectors