Fiber Fabry-Perot Tunable Filter | FFP-TF2

Description

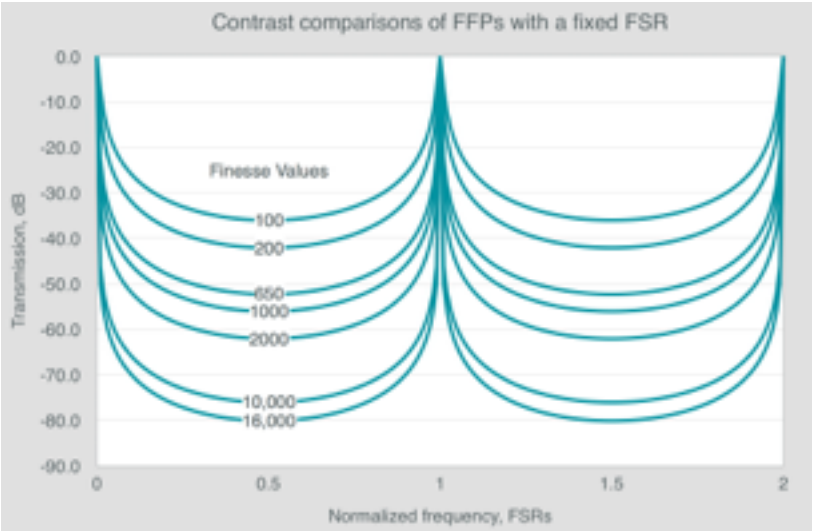
Micron Optics' patented FFP-TF2, Fiber Fabry-Perot (FFP) Tunable Filter achieves high finesse and maintains low loss in a rugged package.

The key to the simple and elegant design of the FFP tunable filter is the lensless all-fiber construction. There are no collimating optics or lenses, thus with the FFP tunable filter Micron Optics has eliminated the pitfalls of other Fabry-Perot component technologies, including misalignment, environmental sensitivity, and extraneous modes.

An all-fiber Fabry-Perot **super-cavity** in a robust, Telcordia qualified package.

The FFP tunable filter follows the Airy function so closely that engineers can design it into the opto-electronic OEM systems knowing that it will provide results very close to the theoretical mathematical model.

The FFP-TF2 design provides improved etalon alignment for stable long-term, high reliability, and Telcordia-qualified performance at a more attractive price. Several standard low-cost configurations are readily available for quick delivery. Custom high performance multi-band configurations are also available for special uses including sensing, biotech, and scientific applications.



Key Features

All-fiber platform

- **High resolution** and **low loss design**
- **Super-cavity finesse**
- **Vibration** and **shock resistant**
- **Thermally stable**
- **Large dynamic range** permits accurate measurements

Ideal for OEM applications

- **Customizable** center wavelength, free spectral range, finesse & bandwidth
- **Center wavelength bands** from 800 to 2000 nm
- **Small** footprint
- **Low power** requirements
- **Telcordia GR 2883** qualified

OEM Applications

- **Optical Performance Monitoring**
- **Spectrum Analysis**
- **Tunable Optical Noise Filtering**
- **Tunable Channel Drop for Ultra DWDM**
- **Tunable Sources**
- **Optical Sensing**

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Optical Properties	Standard[1] FFP-TF2s				
Operating Wavelength Range	1520-1570 nm	1520-1570 nm	1520-1570 nm	1460-1620 nm	1460-1620 nm
Free Spectral Range[2]	15,000 GHz	15,000 GHz	15,000 GHz	27,500 GHz	27,500 GHz
Finesse	500	1,000	2,000	2,000	10,000
Bandwidth, (FWHM or 3dB)[3]	30 GHz	15 GHz	7.5 GHz	13.8 GHz	2.8 GHz
Insertion Loss	< 2.5 dB	< 3 dB	< 3 dB	< 3 dB	< 4 dB
Polarization Dependent Loss	< 0.2 dB				
Input Power	50 mW	30 mW	15 mW	15 mW	3 mW
Electrical Properties					
Tuning Voltage/FSR	< 18 V				
Tuning Rate/FSR[4]	800 Hz				
Capacitance	< 3 uF				
Tuning Voltage, Maximum	70 V				
Mechanical Properties					
Dimension; Weight	13.5 x 25.8 x 57.2 mm; 53 g				
Mounting Holes	(4) #1-72 UNF x 0.16" deep				
Cable Jacket	900 um loose buffer tubing				
Cable Length	~ 1 m				
Environmental Properties[5]					
Operating Temperature	-20 to 80 C				
Change in Voltage	< 12 V				
Change in Insertion Loss	< 0.5 dB				

Custom and OEM Options

Contact Micron Optics for configuration details

Wavelength bands: from 800 to 2000 nm

Free spectral range[2]: 100 to 45,000 GHz

Finesse: up to 16,000

Bandwidth[3]: from MHz to GHz

Ordering Information

FFP-TF2 wwww-wwww-bbbu-fffff-ii-ccc

wwww	Operating wavelength range For example, 1520-1570	
bbb	Bandwidth For example, 015 = 15 GHz	
u	Bandwidth unit	
	G	GHz
	M	MHz
fffff	Finesse For example, 01000 = finesse of 1000	
ii	Insertion loss For example, 2.5 = 2.5 dB loss	
ccc	000	Unconnectorized
	061	FC/APC (fusion spliced)
	063	SC/APC (fusion spliced)
	065	FC/APC (connectorized)

Notes

1 Standard specifications are fixed configurations. Please contact Micron Optics for custom specifications.

2 FSRs are fixed but customizable within these ranges.

3 Bandwidth tolerances are typically +/-20%

4 Tuning rate/FSR are recommended maximums.

5 Complies to Telcordia GR 2883.

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