High-Speed Tunable Filter

Features / Benefits

- Excellent thermal stability
- High scanning speed
- Small package size
- Customizable sweep range
- High resolution for accurate spectrum analysis
- Low insertion loss
- Low PDL

Applications

- High resolution optical spectrum analysis (OSA)
- Optical performance monitoring (OPM) and optical channel monitoring (OCM)
- Tunable channel add/drop for WDM
- Tunable optical noise filtering
- Tunable laser and instrument
- Optical IR spectroscopy
- Sensor application and optical/electronic warfare
- Biomedical imaging and testing
- Medical diagnosis
- Environmental protection, food safety, anti-drug, and anti-terrorism applications

The Lightwaves2020 High-Speed Tunable Filter is a tunable optical filter capable of selecting specified wavelengths over a certain range. The wavelength tuning is achieved by applying a control voltage. The typical wavelength scanning frequency is >1kHz.

This tunable filter can be customized to different operation wavelengths and scanning range. In addition to low polarization dependent loss (PDL) performance, its thermal stability is exceptional with a TEC package.

Lightwaves2020

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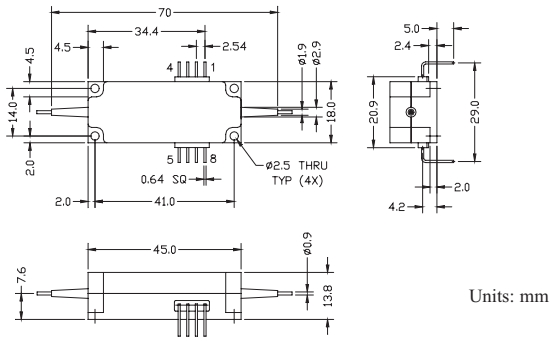
Optical Specifications

Parameters	Unit	Specification
Operating Wavelength Range[1]	nm	C-, L-, or C+L-band
Scanning Wavelength Range[2]	nm	35, 80, or customer specified
Standard Finesse	-	100, 200, 500, 1000, 2000, 4000, or customer specified
Bandwidth @ -3dB[3]	nm	0.4, 0.2, 0.1, 0.05, 0.02 or customer specified
Insertion Loss[4]	dB	3 (Typical)
Side-lobe Suppression Ratio	dB	≥20
PDL	dB	<0.2
PMD	ps	<0.1
Scanning Speed	kHz	1 (Typical)
Control Voltage, V_{FSR} , for one Free Spectrum Range tuning (without driver)[6]	Volt	0-300 VDC
Control Voltage, V_{FSR} , for one Free Spectrum Range tuning (with driver)	Volt	0-5 VDC

Note: 1. Other wavelength range is also available upon request.
2. Scanning wavelength range can be specified within the range of 20nm ~ 150nm. Outside this range is also available upon special request.
3. 3dB bandwidth can be estimated by formula, 3dB bandwidth ~ scanning wavelength range / finesse.
4. Depend on finesse. IL < 2.0dB is achievable upon special request.
5. Filter with >5kHz scanning speed is also available upon special request.
6. Lower control voltage version, VFSR < 150VDC, is also available upon special request.
7. All specification referred without connectors.

Dimensions



Units: mm

Ordering Information

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Wavelength
1= C-band
2= L-band
3= C+L band
4= others

FWHM
1= 0.4nm
2= 0.2nm
3= 0.1nm
4= others

Scanning Range
eg: 035= 35nm
080= 80nm

1= without Driver
2= with Driver

Pigtail Type
0= 250µm bare fiber
1= 900µm loose tube

Connector
0= None
1= FC/UPC
2= FC/APC
3= SC/UPC
4= SC/APC
5= LC/UPC
6= MU/UPC

* This product information is subject to change without notice

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