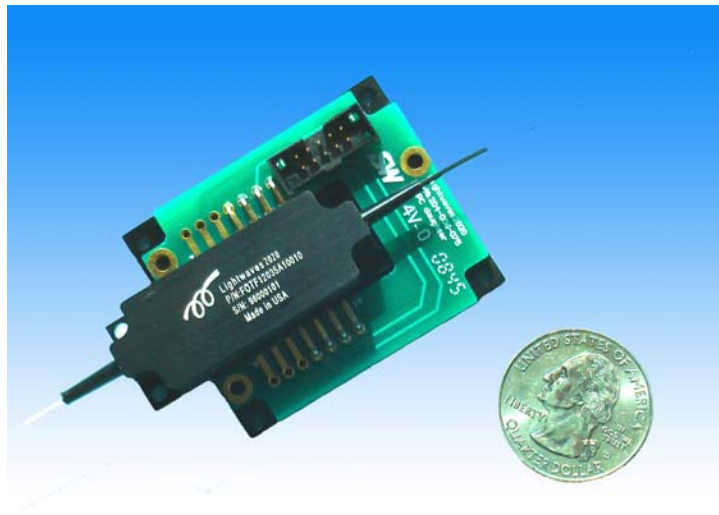


Product Specification

α Tunable Filter

1. PRODUCT DESCRIPTION:



The Lightwaves2020 Fiber-Optics α **Tunable Filter** is a tunable optical filter to choose specified wavelength over certain range. The wavelength tuning is achieved by applying a control voltage. The typical wavelength scanning frequency is $>1\text{kHz}$.

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.

2. FEATURES:

- Excellent Thermal Stability
- High Scanning Speed
- Small Package Size
- Customizable Sweep Range
- High Resolution for Accurate Spectrum Analysis
- Low Insertion Loss
- Low PDL



Product Specification

3. 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

4. ABSOLUTE MAXIMUM RATINGS:

Absolute maximum ratings and environment conditions are intended to be the conditions that a module can be subjected to for an acceptable periods of time without permanent degradation of the performance or reliability.

Parameters	Unit	Min.	Max.
Operating Temperature Range	°C	-10	+75
Storage Temperature Range	°C	-40	85
Operating Relative Humidity (Non-Condensing)	%RH	5	95
Storage Relative Humidity (Non-Condensing)	%RH	5	95
Tensile Load	N	-	5
Maximum Power Consumption	W	-	5



Product Specification

5. OPTICAL SEPCIFICAT IONS:

Parameters	Unit	Specification
Operating Wavelength Range ¹	nm	C-, L-, or C+L-band
Scanning Wavelength Range ²	nm	35, 80, or customer specified
Bandwidth @ -3dB	nm	0.2 nm (for 35 nm scanning range) 0.4 nm (for 80 nm scanning range)
Standard Finesse	-	100, 200, or customer specified
Insertion Loss ³	dB	3 (Typical)
Side-lobe Suppression Ratio	dB	≥20
PDL	dB	<0.2
PMD	ps	<0.1
Scanning Speed	kHz	1 (Typical)
Control Voltage (without driver)	Volt	0-200 VDC (for 35 nm scanning range) 0-350 VDC (for 80 nm scanning range)
Control Voltage (with driver)	Volt	0-5 VDC

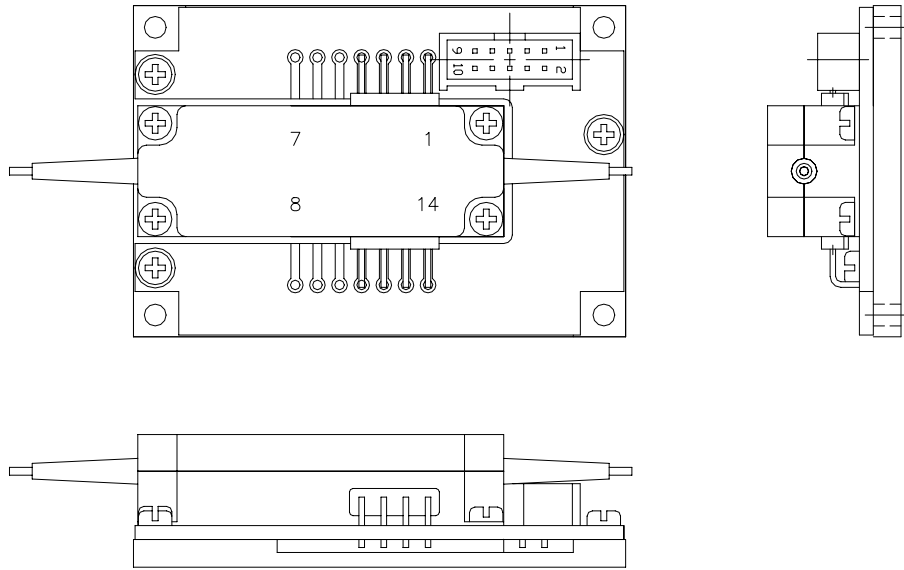
- Note:*
1. Other wavelength range is also available upon request
 2. Scanning wavelength range can be specified upon request
 3. Depend on finesse
 4. All specification referred without connectors

6. MECHANICAL AND PACKAGE SPECIFICATIONS

Parameters	Unit	Specifications
Dimension ⁴	mm	45 x 18 x 13.8
Driver PCB Dimension	mm	TBD
Fiber Length (from module to connector)	m	1± 0.1 (Typical)
Fiber Type	-	SMF-28 or equivalent

Product Specification

7. MECHANICAL DRAWING



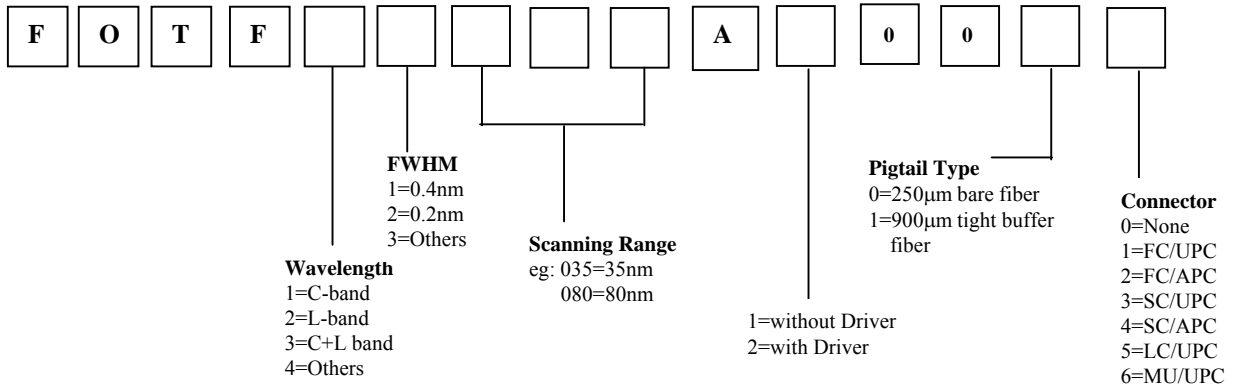
unit: mm

8. TUNABLE FILTER PCB PIN ASSIGNMENT

1	Thermistor	2	Control Voltage
3	TEC-	4	N/C
5	GND	6	GND
7	N/C	8	Thermistor
9	GND	10	TEC+

Product Specification

9. ORDERING INFORMATION



* This product information is subject to change without notice