



*flawless fusion with infinite possibilities*

**SIFAM**  
F I B R E O P T I C S

## Filtering Fibre Bragg Gratings



SIFAM Filter FBGs have class-leading performance derived from sophisticated design techniques and advanced manufacturing technologies.

Sharp roll-off and high isolation are combined with the possibility of very narrow bandwidths for highly precise spectral filtering.

Proprietary laser-welded athermal package technology ensures high wavelength stability over temperature and life, designed for compliance with Telcordia GR-1209 and GR-1221.

### Key Features:

- Flexible design & manufacture
- Very low cross-talk
- Low insertion loss
- Highly stable optical characteristics
- High wavelength accuracy
- Multi-channel filters available
- Stable, compact packaging
- ISO 9001 registered manufacturing facility

### Applications:

- Channel rejection
- Carrier wavelength rejection
- Narrow-band signal selection

### Compliance:

- Telcordia GR-1209
- Telcordia GR-1221

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As part of our policy of continuous product improvement we reserve the right to change specifications at any time

## Optical Specifications

Parameters <sub>1</sub>		Filter FBGs	Unit
Wavelength Ranges		970-985, 1050-1100, 1525-1565 (1565-1610 available on request)	nm
Bandwidth (FWHM)		0.05 to 1.0	nm
Reflectivity <sub>2</sub>		10 to 99.9	%
Wavelength Accuracy	Athermal Package <sub>2</sub>	< ±0.05 (970-1110nm)	nm
	Athermal Package <sub>2</sub>	< ±0.02 (1520-1565nm)	
	Unpackaged <sub>3</sub>	< ±0.2	
Isolation (R)	@ > ±1.5*FWHM	>25	dB
	@ > ±3*FWHM	>35	
	@ > ±5*FWHM	>40	
Temperature Sensitivity	Athermal Package	0.01 (970-1110nm)	nm/°C
	Athermal Package	0.02 0.0005 (1520-1565nm)	
	Unpackaged	0.01	

1. Indicative range of values specified: customer can specify exact parameters
2. Over operating temperature range
3. Specified at 23 ± 2°C

## Environmental Specifications

Parameter	Specification	Unit
Operating Temperature Range	-5 to +70	°C
Storage Temperature Range	-40 to +85	°C
Relative Humidity	5 to 85	%RH

## Device format parameters

Parameter		Specification	Unit
Fibre Type		See available fibre types	
Pigtail Length		> 1	m
Device Format	Packaged	Athermal	
	Unpackaged	Recoated or Uncoated	
Athermal Package Dimensions <sub>4</sub>	OD	5.5 to 5.9	mm
	Length	55 to 180	
Proof Test Level (Unpackaged)		100	kpsi

4. Package length and diameter is dependent on bandwidth and reflectivity

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## Indicative Performance Figures

Example of performance of a 5 GHz 99.9% reflectivity filter (Order code FBG06-P-A-99.9-0.04-1550.000)

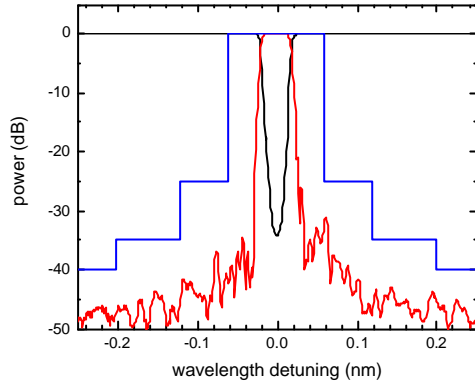


Fig. 1: Reflection and transmission response

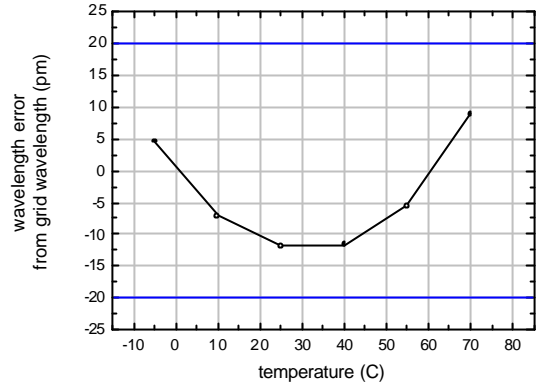
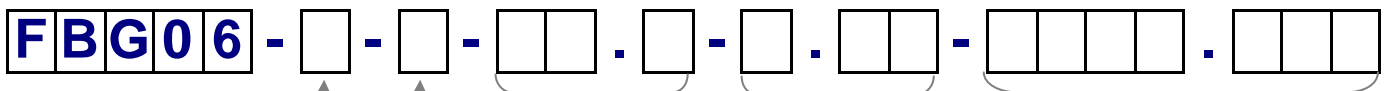


Fig. 2: Typical thermal response data

## Ordering Code Information



Code	Device format	Code	Fibre type	Reflectivity (%)	Bandwidth FWHM (nm)	Centre wavelength (nm)
P	Athermal package	A	Corning SMF-28 (125/250 µm, 0.12 NA)			
R	Recoated	B	Corning HI 1060 Flex (125/250 µm, 0.2 NA)			
U	Uncoated					