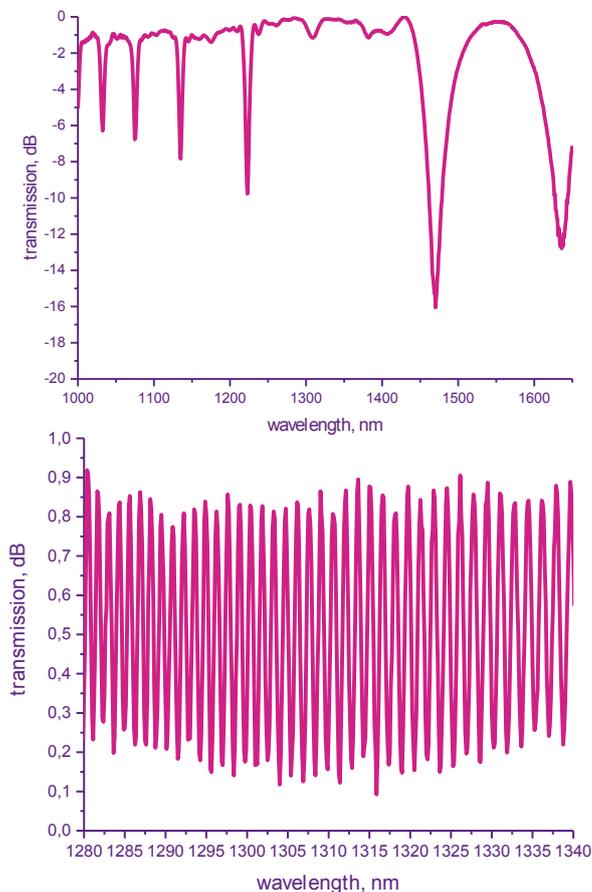


LONG PERIOD FIBER GRATINGS (LPFG)

ARTICLE GTL-LPFG-810

Long Period Fiber Grating is so named because period index change is on the order of 100 microns rather than the 0.5 microns for FBG. An LPFG couples light that is propagating along the fiber core of a Single Mode fiber into cladding modes.

LPFGs operate in transmission. There is no reflected signal. There are several picks with different intensities in LPFGs optical spectrum which are corresponding various cladding modes interaction. LPFGs are widely used as optical filters. It is essential for systems sensitive to reflection. LPFG written in a birefringent fiber may also be used as a polarization-dependent absorbing spectral filter. The LPFGs are very sensitive to temperature changes, strain and refractive index of the surrounding medium. Their thermal sensitivity depends on fiber type and order of cladding mode interaction. Additionally, pair of 50% LPFGs can be used to form in fiber Mach-Zehnder interferometer. The Mach-Zehnder interferometer transmission spectrum is presented in the graph.



FBG CHARACTERISTICS	GTL-LPFG-810	TOLERANCE/NOTE
Wavelength range, nm	1000 ÷ 1700	± 0.2 ÷ ± 1 custom request
Types of fiber	Single-Mode, PM	or custom
LPG Length, mm	< 50	custom request
Period, um	200 ÷ 500	or custom
Peak Intensity, dB / %	10 ÷ 99	± 5
Bandwidth (FWHM), nm	≥ 10	± 2
Loss free spectral range	custom request	
FBG Pigtail Length, m	≥ 0.5	or custom
FBG Recoating	None, Acrylate, Polyimide, Aluminium, Copper	or custom
Tensile Strength, kpsi	> 100	
Optical Connector	Bare fiber, FC/APC, LC/APC	or custom

The configuration can be changed at the customer's request. The parameters specified in this specification can be changed in accordance with the terms of reference.