

FIBER BRAGG GRATINGS (FBG)

π -PHASE-SHIFTED FBG

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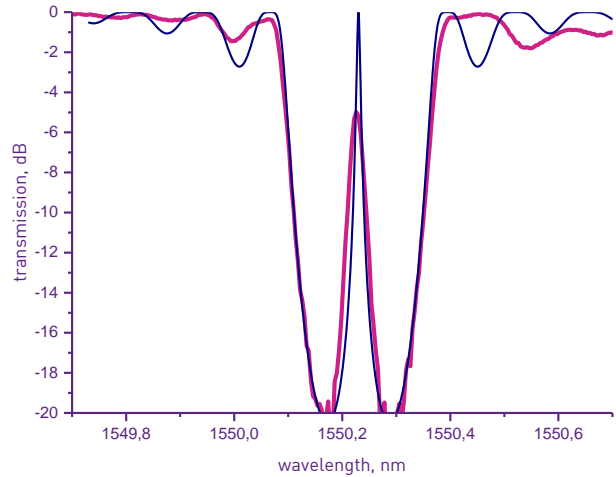
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ARTICLE GTL-FBG-PS-870

Fiber Bragg Gratings have many applications in optical communication, laser technique and sensing systems. The FBGs are widely used like in-fiber mirrors or optical filters with narrow band optical spectrum. FBGs can be used like a sensitive element for strain and temperature measuring.

Phase shifted FBGs have a very narrow peak within its transmission/reflection spectrum. Phase shifted FBG is a grating with phase defect in the center. While the grating length determines its bandwidth, spectral width of that peak depends on the strength both parts of FBG. Typical FWHM has a value $0.1\text{nm} \div 0.005\text{ nm}$. Phase shifted FBGs are used as narrow bandwidth optical filter, for single – frequency fiber lasers creations. The experimental and theoretical transmission spectrum of FBGs is presented in the graph.



FBG CHARACTERISTICS	GTL-FBG-PS-870	TOLERANCE/NOTE
Wavelength range, nm	600 \div 2300	$\pm 0.1 \div \pm 1$ custom request
Types of fiber	Single-Mode, PM, Double clad, LMA	or custom
Wavelength to quick order, nm	633, 780, 794, 797, 799, 801, 809, 830, 852, 895, 940, 976, 1030, 1057, 1060, 1064, 1080, 1125, 1150, 1178, 1240, 1270, 1310, 1484, 1510 \div 1580, 1650, 1900, 1908, 1952, 2300	$\pm 0.1 \div \pm 1$ custom request
Reflectivity, %	50 \div 99	2 \div 5 custom request
Bandwidth (WFHM), nm	0.1 \div 0.8	custom request
Bandwidth of central peak, pm	10 \div 100	custom request
SLSR, dB	~ 8	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.