



## Non-thermal (thermally insensitive) packaged Fiber Bragg Grating (FBG)



- **Product Description**

Fiber Bragg Gratings (FBG) are highly sensitive to temperature changes. Their thermal sensitivity is approximately  $6.7 \text{ ppm}/^\circ\text{K}$  (at a wavelength of  $1550 \text{ nm}$ , it is  $+0.11 \text{ pm}/^\circ\text{K}$ ). Non-thermal encapsulated FBGs are designed to passively compensate for the thermal sensitivity of FBGs through the expansion matching of the shell elements and the wavelength shift of the FBG under temperature influence. This design allows customers to achieve all the advantages of Fiber Bragg Gratings while maintaining high wavelength stability over a wide temperature range



- **Product features**

Wavelength ultra stable; Excellent optical performance; Compact and sturdy packaging; Flexible customization

- **Part Number**

MP-GTL-FBG-AP-850

- **Application area**

Dense Wavelength Division Multiplexing (DWDM) fiber optic communication system | High precision fiber optic sensing | Stable laser light source

- **Core parameters**

Wavelength Range	Bandwidth	Grating Length
600-2300nm	0.05-1.2nm	1-20mm

- **General Parameters**

Parameters

Grating Characteristics	MP-GTL-FBG-AP-850	Tolerance/Considerations
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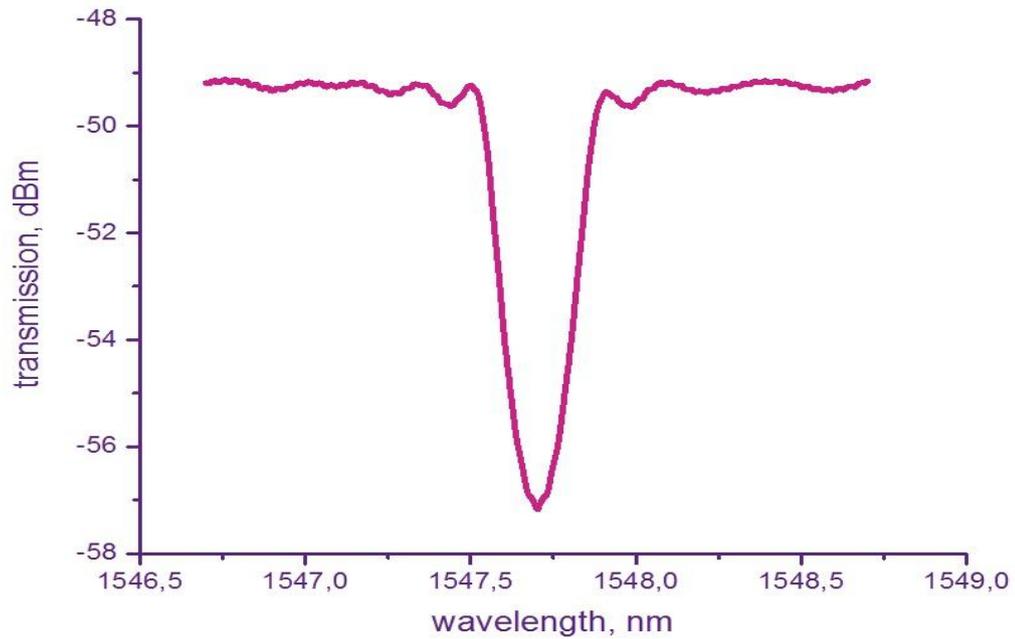


<b>Wavelength Range (nm)</b>	<b>600~2300</b>	<b>± 0.1 ~ ± 1 Customized</b>
<b>Fiber Type</b>	<b>SM, PM, Double Cladding, LMA</b>	<b>Or Customized</b>
<b>Fast Order Wavelengths (nm)</b>	<b>633,780,794,797,799,801,809,830, 852,895,940,976, 1030,1057,1060,1064, 1080,1125,1150,1178,1240,1270, 1310,1580,1650,1900,1908,1952, 2300</b>	<b>± 0.1 ~ ± 1 Customized</b>
<b>Thermal Wavelength Stability (0 ~ +70° C) (nm)</b>	<b>&lt;0.16</b>	
<b>Reflectivity (%)</b>	<b>5 ~ 99</b>	<b>2 ~ 5 Customized</b>
<b>Bandwidth (FWHM) (nm)</b>	<b>0.05~1.2</b>	<b>Customized</b>
<b>Grating Length (mm)</b>	<b>1 ~ 20</b>	<b>Customized</b>
<b>SLSR, dB</b>	<b>~8</b>	<b>Customized</b>



<b>FBG Pigtail Length</b> (m)	$\geq 0.5$	<b>Or Customized</b>
<b>Tensile Strength</b> (kpsi)	$> 100$	
<b>Fiber Connector</b>	<b>Bare fiber, FC/APC, LC/APC</b>	<b>Or Customized</b>
<b>Package Size</b> (LxWxH) (mm)	<b>66×18×12</b>	

## The reflection spectrum of a typical FBG





## The change of the center wavelength of uncoated and non-thermally packaged FBG with temperature:

