

Gain Flattening Filters Based on Fiber Bragg Grating

Product Description:

Erbium doped fiber amplifier (EDFA) or Raman amplifier enabled the broad deployment of the DWDM network, allowed for longer fiber links between regenerators and reduce the cost. For optical amplifiers, gain flatness is necessary to mitigate the non-linear effects and improve the optical signal to noise ratio (OSNR).

To equalize gain, a gain flattening filter with a spectral response matching the inverse gain profile is integrated within an amplifier. Among the technologies, two of them based on thin-film dielectric coating and fiber grating are most widely employed. You might check this page http://www.pmoptics.com/files/Telcom_filters.pdf for filters based on thin-film dielectric coating.

In comparing with dielectric coating technology, a gain flattening filter based on fiber Bragg grating has a better performance in terms of temperature stability and gain profile matching accuracy. We are able to match your specific profile with a maximum attenuation of 15dB and a precision of less than ± 0.25 dB dB from 1520nm to 1625nm.

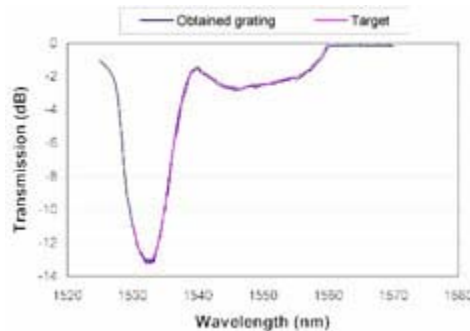


Figure 1: The red color is the target profile and the blue color is the measurement profile.

Specifications:

Wavelength Range	1520 ~1625nm
Attenuation Fitting Tolerance	Typical 0.15dB
Maximum Attenuation	15dB
Insertion Loss	< 0.5dB
PDL	< 0.1dB
PMD	< 0.1 ps

Fiber	SMF-28
Fiber Length	1 meter
Athermal Package Dimensions	7.3mm(ϕ)X78mm(L)