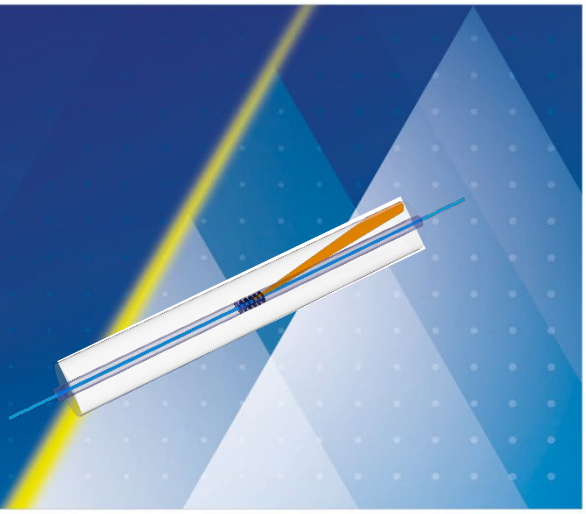
TeraXion

An indie Semiconductor Company

WSF Series of Wavelength Suppression Filters (band-stop)



The WSF is a band-stop filter that allows to block the transmission of a wavelength or a range of wavelengths over a specified bandwidth.

The WSF filter allows to safely extract detrimental signals from the transmission spectrum in a various range of applications.

Using TeraXion's exclusive tilted Fiber Bragg Grating (FBG) filter technology [1], [2], the WSF cleverly guides unwanted signals into the cladding of the fiber where it can finally be safely extracted out of the laser.

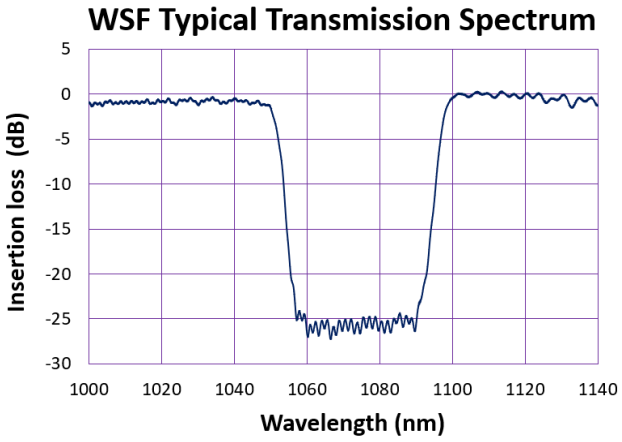
Typical applications include tandem or in-band pumped fiber lasers, dual- or multi-wavelength laser systems, etc.

(1) Patents granted: US10393955 and US10663654
(2) Patents pending: US20200333529 and CA2971601

Advantages

- All-fiber solution
- High power handling
- No circulator needed (transmission filter)
- In-line filter
- Low insertion loss
- Low return loss
- Available at different wavelengths and configurations to match your application requirements

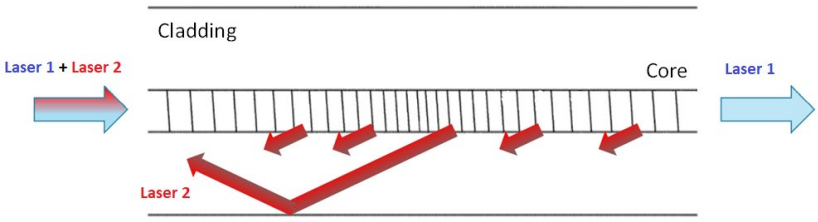
Typical Transmission Spectrum



General Specifications

Optical Parameters	Specification	Units
Passband center wavelength (CWL_{pass}) at room temperature (1),(2),(3)	1010 to 1040	nm
Stopband center wavelength (CWL_{stop}) at room temperature (1),(2),(3)	1040 to 1090	nm
Stopband bandwidth	5 to 20	nm
Stopband attenuation loss	≥ 20	dB
Insertion loss	≤ 0.15	dB
Return loss input side	≥ 30	dB
Return loss output side	≥ 30	dB
Wavelength referenced to	Air	
Power handling (4),(5)		
Maximum cladding power	Up to 3000	W
Maximum signal power	Up to 2000	W
Mechanical parameters		
Pigtails length	Standard: 1	m
Package type	Low-index recoat, 100 mm long (6)	
Standard fiber parameters (7)		
Core diameter	8 to 25	um
Core NA	0.06 to 0.15	
Cladding diameter	125 to 600	um
Cladding NA	≥ 0.42	
Product compliance		
RoHS compliant	Yes	

(1) LP_{01} mode
(2) Room temperature = 20 °C to 23 °C
(3) Custom wavelengths can also be offered.
(4) Power handling depends on fiber type. In general, the maximum cladding power handling depends on the maximal signal power handling and vice versa. Several grades and combinations are available, contact TeraXion for details.
(5) With proper cooling on a water-cooled cold plate to ensure that the filter temperature is kept below 70 °C in operation.
(6) The recoat diameter depends on the fiber parameters in general.
(7) Several (but not all) combinations of core diameter, core NA and cladding diameter are available. Contact TeraXion for details.



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