

W635S415B1B

Description

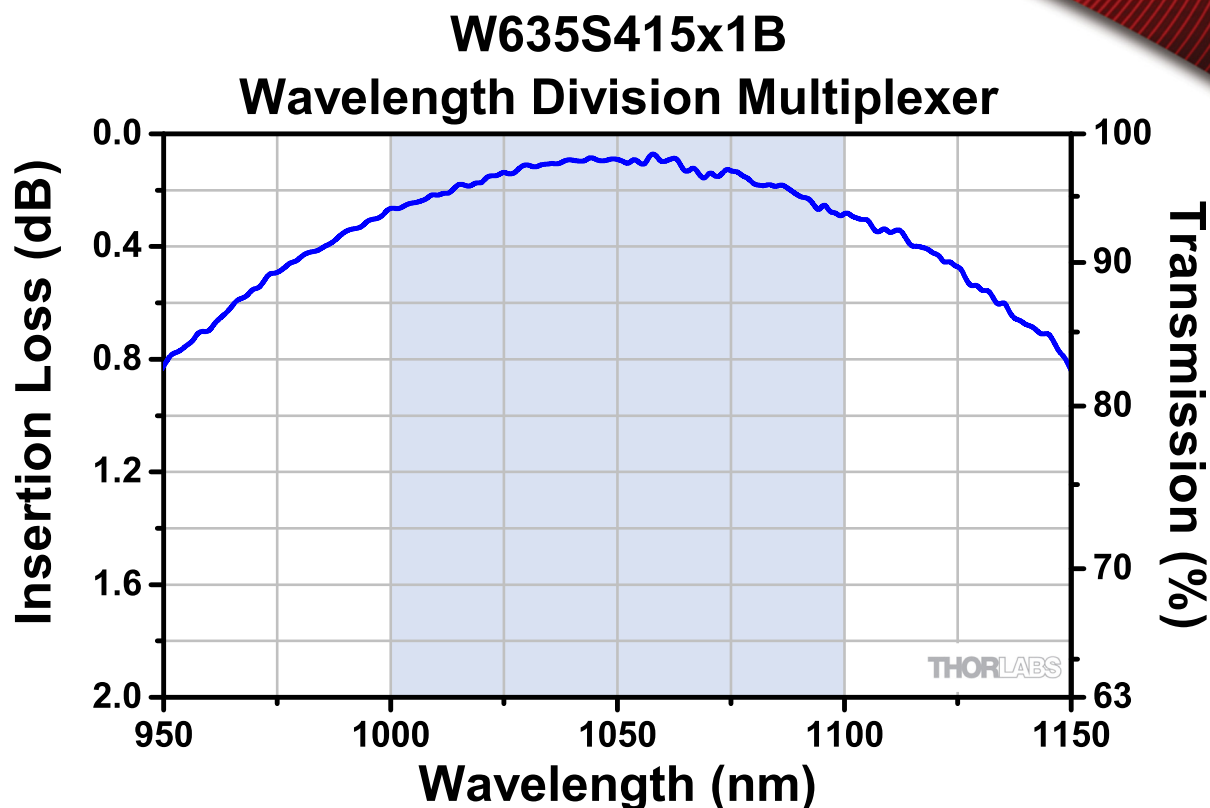
Thorlabs' W635S415B1B Wavelength Division Multiplexer (WDM) is designed to combine light from an alignment or pointing beam (630 nm - 680 nm) with a signal at 1050 nm into a single fiber. Because of the large ± 50 nm bandwidth around 1050 nm, this multiplexer is ideal for applications in life science imaging. This WDM is not reversible and should not be used to split light entering the common port.

Specifications

	Port 1	Port 2
Wavelength	1050 nm	635 nm ^a
Bandwidth	± 50 nm	-5/+45 nm
Insertion Loss ^b	≤ 0.3 dB	≤ 1.0 dB
Transmission ^c	$\geq 93\%$	$\geq 80\%$
Isolation ^{b,d}	≤ 13 dB	N/A
Polarization-Dependent Loss (PDL) ^b	≤ 0.2 dB	
Optical Return Loss/Directivity ^b	≥ 60 dB	
Port Configuration	1x2	
Fiber Type ^e	HI1060 FLEX	
Fiber Cut-Off Wavelength	930 ± 40 nm	
Fiber NA	0.22	
Max Power Level ^f	300 mW (Bare Fiber) 500 mW (Spliced)	
Connectors	No Connectors, Scissor Cut	
Package Size	$\varnothing 0.12'' \times 3.35''$ ($\varnothing 3.2$ mm x 85.0 mm)	
Jacket	$\varnothing 900$ μ m Hytrel [®] Loose Tube	
Pigtail Tensile Load	10 N	
Operating Temperature Range	-40 to 85 °C	
Storage Temperature Range	-40 to 85 °C	

- This port can be used with any laser alignment beam from 630 nm - 680 nm. Light at these wavelengths will be multimode due to the fiber cut-off wavelength.
- These specifications are typical values and are specified over the bandwidth without connectors.
- Calculated from insertion loss specification above.
- Isolation represents the maximum crosstalk between the channels. This WDM is not reversible and should not be used to split light entering the common port.
- Other fiber types are available upon request. Please contact techsupport@thorlabs.com with inquiries.
- Specifies the total maximum power allowed through the component. Coupler performance and reliability under high-power conditions must be determined within the user's setup. See Usage Tips for safety and handling information.

Typical Performance Plot



This plot shows the spectral performance of the 1050 nm channel of a typical 635 nm / 1050 nm WDM. The blue-shaded region denotes the operating range of the channel. All data was measured without connectors using a broadband source and optical spectrum analyzer.

Usage Tips

- 1) Before connecting a component to a system, make sure the light source is turned off. Inspect both the input and output fiber ends; debris or contamination on the end face can lead to fiber damage when operated at high powers.
- 2) After connecting the component, the system should be tested and aligned using a light source at low power. The system power can be ramped up slowly to the desired output power while periodically verifying all components are properly aligned and that coupling efficiency is not changing with respect to optical launch power.
- 3) The device can be spliced into a setup for operation at higher optical powers. Fiber ends should always be cleaned and cleaved prior to splicing.