

WDISWD2 Series Integrated WDMs/ Two-Stage Isolators/WDMs



Description

The WDISWD2 Series hybrid components are high-performance optical assemblies that combine the functions of a backward pump combiner, a polarization-insensitive two-stage isolator, and forward pump combiner into a single compact package.

By integrating these functions, the overall insertion loss is reduced while maintaining full optical performance through the elimination of unnecessary splicing and coupling of fibers. The excellent characteristics of the components make them suitable for laboratory and field applications.

Units are available for both 980 and 1480 nm pump bands of erbium doped fiber amplifiers (EDFAs), including both pump wavelengths combined within one component.

These components are configured with Corning SMF-28 fibers on all ports of 1480 nm units and with Corning Flexcor 1060 fiber on all ports of 980 nm units.

L-band hybrid components are also available.

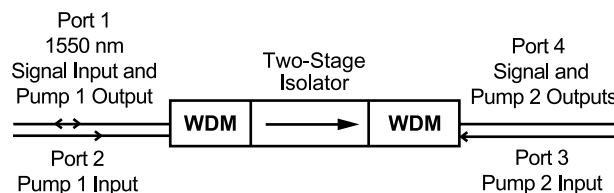
Key Features

- Integrated design for two-stage 980/1480 nm pumped EDFAs
- Miniature package
- Typical losses of 0.9 dB (signal) and 0.25 dB (pump)
- Low wavelength ripple, polarization dependent loss (PDL), and polarization mode dispersion (PMD)
- Designed for stable and highly reliable performance

Applications

- Compact two-stage EDFA modules
- Forward/backward pump design

Configuration



Ports 1, 2, 3, and 4: Corning Flexcor 1060 (980 nm version)
Corning SMF-28 (1480 nm version)

Qualification and Reliability Tests

Type of Test	Conditions	Duration
Damp heat	85 °C and 85% RH	2500 hours
High temperature storage	85 °C	2500 hours
Low temperature storage	-40 °C	2500 hours
Temperature cycling	-40 to 75 °C	500 cycles
Temperature humidity cycling	-40 to 75 °C, 90% RH	5 cycles
Water immersion	43 °C	340 hours
Vibration	10-2000-10 Hz	12 cycles x 3 axis
Impact	500 G, 8 impacts x 3 axis	5 cycles
Cable retention	0.5 kg for 1 minute	3 pulls/fiber

Specifications

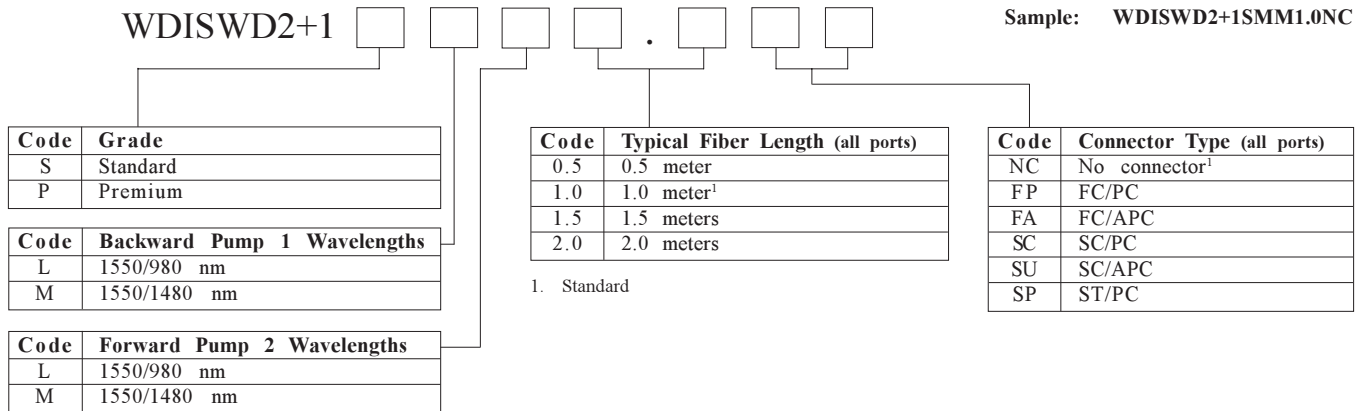
Parameter			Premium Grade	Standard Grade
Model			WDISWD2+1P	WDISWD2+1S
Pump wavelength	λ1		1470 ±25 nm or 980 ±15 nm	
Signal wavelength ¹	λ2		1530 to 1563 nm	
Insertion loss ²	1→4 over λ2	typical	0.9 dB	1.1 dB
		maximum	1.2 dB	1.4 dB
	2→1 over λ1	typical	0.25 dB	0.35 dB
		maximum	0.5 dB	0.6 dB
3→4 over λ1	typical	0.25 dB	0.35 dB	
	maximum	0.5 dB	0.6 dB	
Isolation	4→1 over λ2 at 23 °C	typical	50 dB	45 dB
		minimum	45 dB	40 dB
	4→1 over λ1	minimum	40 dB	40 dB
		1→2, 4→3 over λ2	minimum	15 dB for 1480 nm pump 20 dB for 980 nm pump
Directivity ³	1→3 over λ2	minimum	60 dB	60 dB
		2→4, 3→1 over λ1	minimum	60 dB
Return loss	all ports	minimum	50 dB	50 dB
Wavelength flatness	1→4 over λ2	maximum	0.15 dB	0.15 dB
	2→1, 3→4 over λ1	maximum	0.1 dB	0.1 dB
Wavelength ripple (<2 nm period)	1→4 over λ2	maximum	0.06 dB	0.06 dB
	2→1, 3→4 over λ1	maximum	0.03 dB	0.03 dB
PDL	1→4 over λ2	typical	0.07 dB	0.09 dB
		maximum	0.15 dB	0.2 dB
PMD	2→1, 3→4 over λ1	maximum	0.05 dB	0.05 dB
		1→4 over λ2	maximum	0.05 ps
Maximum optical power			300 mW	
Fiber type			125/250 μm Corning SMF-28 for all ports of 1480 nm version Corning Flexcor 1060 for all ports of 980 nm version	
Dimensions (cylindrical DxL)			5.5 x 47 mm	
Operating temperature			0 to 60 °C	
Storage temperature			-40 to 85 °C	

1. Signal path of 980 nm version (port 1 to port 4) also passes 1310 ±30 nm with typical losses of 3 to 5 dB.
 2. Measured without connectors.
 3. With output port terminated.

Note: These specifications are applicable over the operating temperature range unless otherwise specified.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDS FITELE sales representative or JDS FITELE directly at (613)727-1303, or by fax at (613)727-8284, or via e-mail at sales@jdsfitel.com.



Flexcor and SMF-28 are registered trademarks of Corning Incorporated.

All information contained herein is believed to be accurate and is subject to change without notice. No responsibility is assumed for its use. As this is a new/advanced product, JDS FITELE or manufacturer are likely to make changes, and reserves the right to do so, without notice, to product design, product components and product manufacturing methods. Some specific combinations of options may not be available. Please contact JDS FITELE Inc. for more information.

© JDS FITELE Inc. All rights reserved.

MKT-DS-0135 Rev. A 04/99 Printed in Canada



JDS FITELE Inc.
570 West Hunt Club Rd.
Nepean (Ottawa), Ontario
K2G 5W8 CANADA

Tel. (613) 727-1303
Fax. (613) 727-8284
sales@jdsfitel.com
www.jdsfitel.com

