

WDACIS1 Series

Integrated WDMs/Taps/ Single-Stage Isolators



Description

The WDACIS1 Series hybrid components are high-performance optical assemblies. The functions of backward pump combiner optical monitor and polarization insensitive single-stage isolator are combined into a single compact package. By integrating these functions and eliminating unnecessary splicing and coupling of fibers, the overall insertion loss is reduced while maintaining full optical performance. The excellent characteristics of the WDACIS1 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).

These components are configured with Corning SMF-28 fibers on all ports of 1480 nm units and with Corning Flexcor 1060 fibers on the pump and input/output ports of 980 nm units.

L-band hybrid components are also available.

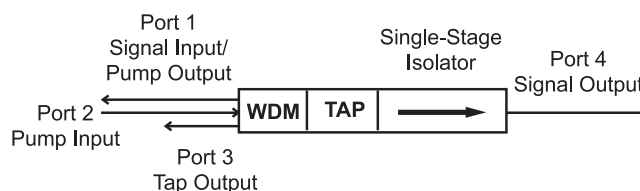
Applications

- Compact EDFA modules
- Backward pump/forward monitor design

Key Features

- Integrated design for pumped 980/1480 nm pumped EDFAs
- Miniature package
- Typical losses of 0.8 dB (signal) and 0.25 dB (pump)
- Excellent monitor tracking, low wavelength ripple, polarization dependent loss (PDL), and polarization mode dispersion (PMD)
- Designed for stable and highly reliable performance

Configuration



Ports 1 and 2: Corning Flexcor 1060 (980 nm version)
Corning SMF-28 (1480 nm version)
Ports 3 and 4: 9/125/250, Corning SMF-28

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			WDACIS1+IP	WDACIS1+IS
Pump wavelength	$\lambda 1$		1480 \pm 25 nm or 980 \pm 15 nm	
Signal wavelength	$\lambda 2$		1530 to 1563 nm	
Insertion loss ¹	1 \rightarrow 4 over $\lambda 2$	typical	0.9 dB	1.1 dB
		maximum	1.1 dB	1.3 dB
	1 \rightarrow 3 over $\lambda 2$ 2 \rightarrow 1 over $\lambda 1$	typical	18.5 \pm 1.0 dB	18.5 \pm 1.0 dB
		maximum	0.25 dB 0.5 dB	0.35 dB 0.6 dB
Isolation	4 \rightarrow 1 over $\lambda 2$ at 23 °C	typical	40 dB (peak)	35 dB (peak)
		minimum	30 dB	28 dB
	1 \rightarrow 2 over $\lambda 2$	minimum	15 dB for 1480 nm pump	15 dB for 1480 nm pump
		minimum	20 dB for 980 nm pump	20 dB for 980 nm pump
Directivity ²	2 \rightarrow 4 over $\lambda 1$	minimum	60 dB	60 dB
	2 \rightarrow 3 over $\lambda 1$	minimum	60 dB	60 dB
Return loss	all ports	minimum	50 dB	50 dB
PDL	1 \rightarrow 4 over $\lambda 2$	typical	0.07 dB	0.09 dB
		maximum	0.1 dB	0.15 dB
	1 \rightarrow 3 over $\lambda 2$ 2 \rightarrow 1 over $\lambda 1$	maximum	0.05 dB	0.05 dB
		maximum	0.05 dB	0.05 dB
PMD	1 \rightarrow 4 over $\lambda 2$	maximum	0.03 ps	0.03 ps
Fiber type	all ports		125/250 μ m	
Maximum optical power			300 mW	
Dimensions (DxL)			5.5 x 51.0 mm	
Operating temperature			0 to 60 °C	
Storage temperature			-40 to 85 °C	

1. Measured without connectors.

2. 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 representative or JDS FITELE directly at (613)727-1303, or by fax at (613)727-8284, or via e-mail at sales@jdsfitel.com.

Sample: WDACIS1+ISM1.0NC

WDACIS1+1 .

Code	Grade
S	Standard
P	Premium

Code	Wavelength
L	1550/980 nm
M	1550/1480 nm

Code	Typical Fiber Length (all ports)
0.5	0.5 meter
1.0	1.0 meter ¹
1.5	1.5 meters
2.0	2.0 meters

Code	Connector Type (all ports)
NC	No connector ¹
FP	FC/PC
FA	FC/APC
SC	SC/PC
SU	SC/APC
SP	ST/PC

1. Standard

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