

Amplifier Hybrid with Multi-Mode (MM) 9xx/Single-Mode (SM) 1550 WDM and Isolator

AHC Series

**Key Features**

- MM 9xx/SM 1550 WDM with single-stage isolator
- DCF output, 125 μm MM core and 0.45 NA; other MM core size and NA available
- Compact package design: 5.5 (\O) x 32 (L) mm
- -5 to 70 $^{\circ}\text{C}$ operating range

Applications

- Er/Yb co-doped double cladding fiber amplifiers
- CATV and FTTx high power EDFAs

Compliance

- Telcordia GR-1221-CORE

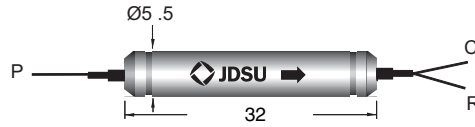
This hybrid device combines an input multi-mode 9xx nm pump with a 1550 nm single-mode signal and a double cladding fiber (DCF) output for high-power optical amplification applications. A single-stage isolator for a 1550 nm signal is integrated into the device to allow better performance and greater integration of the high-power erbium doped fiber amplifier (EDFA) design.

This is a key component for cladding pumped high-power EDFAs. This device provides a flexible platform for interfaces with other specialty fibers, such as standard SMF-28 signal input fiber, low (0.15 NA) or high (0.46 NA) MM core NA independent to its core size on the 9xx nm input and output DCF ports.

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Dimensions Diagram

(Specifications in mm unless otherwise noted.)



Specifications

Parameter

Specifications

SM signal channel P → C

Wavelength range, λ_S		1530 to 1570 nm
Insertion loss	Maximum	1.2 dB
PDL	Maximum	0.1 dB
PMD	Maximum	0.30 ps
Isolation C → P at λ_S	Minimum	28 dB
Isolation P → C at λ_R	Minimum	20 dB

MM pump channel R → C

Wavelength range, λ_R		890 to 1000 nm
Insertion loss at 940 nm	Maximum	0.6 dB at 0.22 NA input source, 0.4 dB at 0.15 NA input source
PDL	Maximum	0.1 dB
Directivity P → R at λ_S	Maximum	-60 dB
Optical return loss	Minimum	45 dB
Operating temperature	Maximum	-5 to 70 °C
Storage temperature	Maximum	-40 to 85 °C
Package size (Ø x L)	Typical	5.5 x 32 mm
Maximum optical power	Maximum	500 mW at λ_S (SM), 15000 mW at λ_R (MM)

Note: Parameters are specified for the whole wavelength range over all polarization states and operating temperature range unless stated otherwise.

Fiber Pigtail Specifications

Parameter		Port-P	Port-R	Port - C
Fiber type		SMF-28 (note ¹)	DCF	DCF
SM core MFD at 1550 nm	Typical	10 μm	7 μm (note ²)	7 μm (note ²)
SM core NA	Typical	0.14	0.15 (note ²)	0.15 (note ²)
MM core diameter	Typical	-	125 μm (note ³)	125 μm (note ³)
MM core NA.	Typical	-	0.45 (note ³)	0.45 (note ³)
Cladding diameter	Typical	125 μm	-	-
Outer coating diameter	Typical	250 μm	250 μm	250 μm
Fiber length	Typical	1.0 m	1.0 m	1.0 m
Fiber bending radius		>25 mm	>45 mm	>45 mm
Fiber color code		Clear	Clear	Black
Connector		None	None	None

1. Other types of single-mode fiber available upon request
2. Other types of DCF fiber with different single-mode core size and NA available upon request
3. Other types of DCF fiber with different multi-mode core size and NA available upon request (e.g. 105 μm with 0.22 NA)

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: AHC-C60J10HM0

Product Code	Description
AHC-C60J10HM0	Multi-mode 9xx/single-mode 1550 WDM and forward isolator with double cladding fiber output, 250 μm fiber without connector

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