

# 21.5 dBm Controlled Erbium Doped Fiber Amplifier (EDFA) for Long Haul and Ultra Long Haul Applications

## OA 4500 Amplifier Series

**Key Features**

- High output power, up to 21.5 dBm
- Variable gain, from 19 to 32 dB
- Mid-stage access
- Transient suppression
- Variable optical attenuation
- Constant gain, power, and current modes

**Applications**

- Pre-amplifier and line amplification
- Dense wavelength division multiplexing
- Metro and long haul networks
- Circuit pack integration

JDSU's Agile Optical Amplifiers respond dynamically to accommodate changes in number of wavelengths or signal powers using advanced transient suppression techniques. As a result, they preserve gain, flatness and output power over a wide range of input conditions to meet the needs of reconfigurable optical networks.

The OA 4500 is the next step in the evolution of JDSU OA Series of platform optical amplifiers that features fast transient control, variable gain, and mid-stage access. The optical performance of this EDFA, along with its control flexibility, makes it ideally suitable for dense wavelength division multiplexing (DWDM), long haul, ultra long haul, and metro applications. With a maximum optical output of 21.5 dBm and variable gain range of 19 to 32 dB, this module is suitable for both pre-amplifier and inline applications.

The OA 4500 Series is optimized for use with dispersion compensation units of up to 11 dB. This module's fast transient suppression feature minimizes transmission penalties as channels are added and dropped in the network, or as input varies. It uses a Transistor-Transistor Logic (TTL) level RS 232 control interface driven by a single 5 V power supply.

JDSU has extensive experience with the development of fully functioning EDFAs and can design standard, high-performance optical amplifier products that meet your critical time-to-market requirements.

## 2

## Specifications

Parameter	OAC-21F4500Cx
Wavelength range	1530 to 1564 nm
Output power	21.5 dBm
Gain	19 to 32 dB
Gain flatness	±1.0 dB, narrowband
Input power	-30 to 2.0 dBm
Noise figure	6.9 dB
Power supply requirements	5 V
Mid-stage access	Up to 11 dB loss
Control platform	Yes
Mode of Operation	Constant current, gain or power mode
Dimensions (W x H x D)	130 x 200 x 29 mm
Operating temperature	0 to 65 °C
Gain transient	See table below

## Sample Transient Performance at Nominal Input (Each Amplifier Stage)

Transient Event	Maximum Excursion	Settling Time
3 dB add/drop	1.5 dB	500 μs
9 dB add/drop	2.0 dB	500 μs
15 dB add/drop	2.5 dB	800 μs

# 3

**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](mailto:customer.service@jdsu.com).

**Sample: OAC-21F4500CA**

## OAC - 21F4500C

Code	Connector Type <sup>1</sup>
3	FC/APC
5	SC/APC
9	FC/UPC
A	SC/UPC (default)
C	MU

1. More connector options are available upon request.

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