

Fiber Amplifiers



VISIBLE AND INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT

EDFA100S

Features

- ◆ Ytterbium-Doped (YDFA) or Erbium-Doped (EDFA) Fiber Amplifiers
- ◆ Operating Wavelength Ranges
 - YDFA: 1025 - 1075 nm
 - EDFA: 1530 - 1565 nm (C-Band)
- ◆ For CW and Ultrafast Pulse Amplification
- ◆ Single Mode or Polarization-Maintaining Versions Available

Thorlabs offers core-pumped ytterbium-doped (YDFA) and erbium-doped (EDFA) fiber amplifiers. Each amplifier is enclosed in a compact, turnkey benchtop package with FC/APC input and output connectors. They also include built-in input and output isolators, and the pump current is adjustable through the instrument's front panel. Remote control of the pump current is supported by sending serial commands via a USB 2.0 connector.

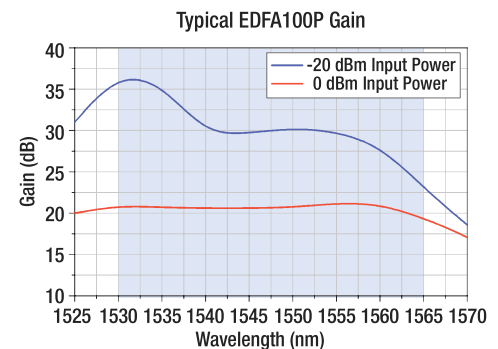
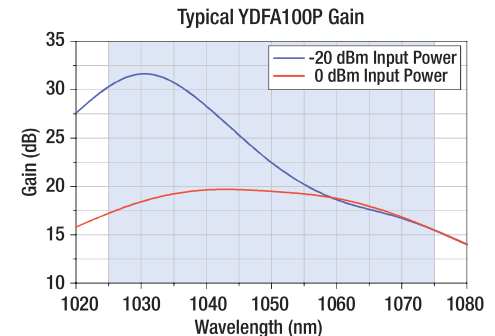
Specifications

Item #	YDFA100S	YDFA100P	EDFA100S	EDFA100P
Amplifier Specifications (at 1000 mA Pump Current)				
Operating Wavelength Range	1025 - 1075 nm		1530 - 1565 nm ^a	
Output Power (at 3 dBm Input Power)	≥19 dBm (1050 nm)		>20 dBm (1550 nm)	
Small Signal Gain (at -20 dBm Input Power)	>22 dB (1050 nm)		>30 dB (1550 nm)	>28 dB (1550 nm)
Noise Figure	<8 dB (1050 nm)		<5 dB (1550 nm) (at 3 dBm Input Power)	
Output Power Stability (at 3 dBm Input Power)	<±2% Over 24 Hours (After 15 Minute Warm-Up for Ambient Temp. ±2 C°)			
Total Absolute Dispersion within Amplifier	<0.2 ps/nm		<0.06 ps/nm	
Laser Class	3B			
Absolute Maximum Input Power	10 dBm			
Absolute Maximum Output Power	23 dBm			

Fiber Specifications

	YDFA100S	YDFA100P	EDFA100S	EDFA100P
Output Polarization	Random	Linear ^b	Random	Linear ^b
Polarization Extinction Ratio	N/A	>20 dB	N/A	>25 dB
Polarization-Dependent Gain	<0.3 dB	N/A	<0.2 dB	N/A
Return Loss at Input Port	>50 dB			
Input/Output Isolation	>20 dB		>30 dB	
Input/Output Fiber Type	HI1060	PM980-XP	SMF-28-J9	PM1550-XP
Input/Output Fiber Connectors	FC/APC Compatible, 2.0 mm Narrow Key			

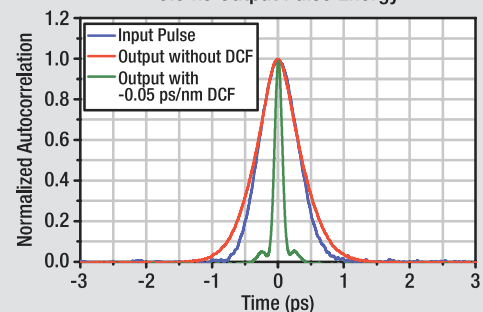
- a. The wavelength range over which the output power (at 3 dBm input power) does not fall below 18 dBm.
b. Aligned to Slow Axis



Tested for Ultrafast Applications

Our fiber amplifiers are engineered to impart minimal dispersion to ultrafast pulses. The dispersion and nonlinear parameters of each unit can be provided for modeling amplifier pulse propagation.

0.6 nJ Output Pulse Energy



Using a pre-chirp DCF to optimize EDFA100P pulse amplification generates compressed pulses at 0.6 nJ with a width of <100 fs (shown above).