SIMTRUM

Thulium doped Fiber Amplifier

Standard / High-power

2023 V1

For customized projects please Contact us:

info@simtrum.com

Thulium Doped Fiber Amplifier - TDFA

TDFA is a benchtop Thulium-doped fiber amplifier. It incorporates high-end multi-mode pump diodes, WDM combiners, and high-gain Tm-doped fiber. The system has industrial-leading power levels and noise performance.

Our TDFAs feature a turn-key design. The operator panel has alarm and status indicators and integrates an RS232 connector (or Ethernet interface) for PC remote control. There are customization options for single-frequency, all-polarization-maintaining and short-pulsed operations.

Key Features

- Wide gain bandwidth
- High signal-to-noise ratio
- Excellent Power Stability
- High Power Output

Applications

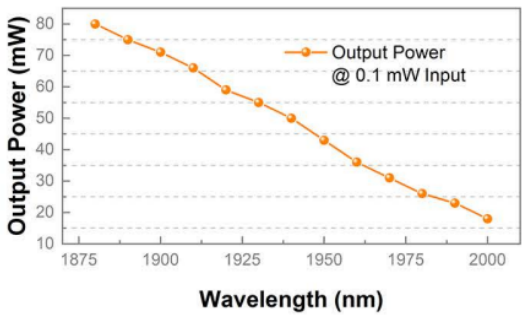
- Mid-IR frequency conversion
- Mid-IR spectroscopy analysis
- Silicon photonics
- Fibre communication system

Main Specification

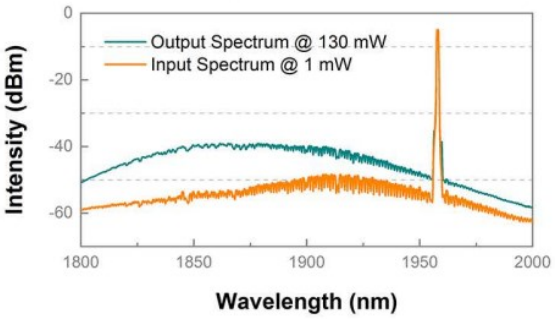
Laser Parameters		
Operating Wavelength	nm	1880-2000 nm
Gain Coefficient	dB	>20 dB
Saturation Power	mW	>100 mW
Average Power Stability	% RMS	< 0.5 %RMS (12h@25°C)
Beam Quality	MHz	TEM_{00},M2<1.2
Input Power	mW	≥1 mW
Output Polarization		Random / linear polarization
Output Type		SMF28e/PM1950 Fiber, FC/APC Connector
Electrical, Environmental and Mechanical Parameters		
Supply Voltage	VAC	100-240
Operational Temperature Range	°C	15-35
Operational Humidity Range	%	20-80 (non-condensing)
Weight	kg	4.6
Dimensions	mm (LxWxH)	306 x 276 x 111.6
Cooling		Air Cooling

Test Data

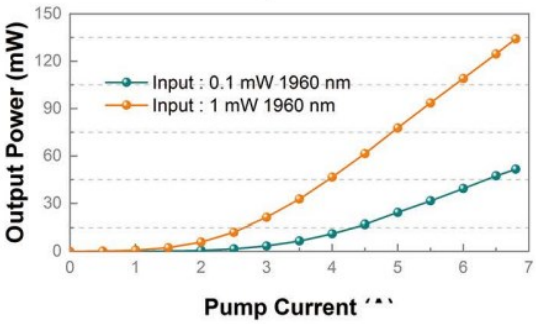
Different wavelength amplification



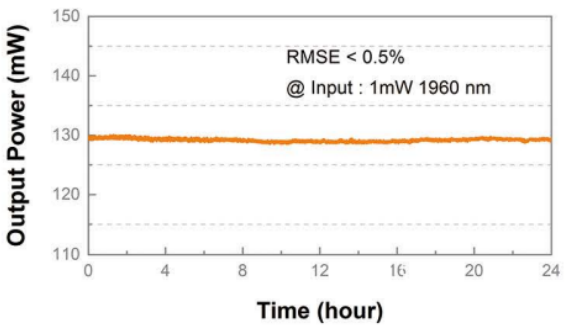
Comparison of input and output Spectrum



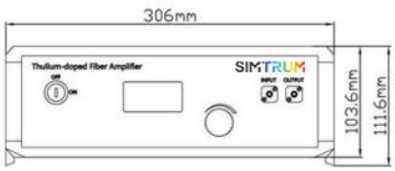
Current power curve

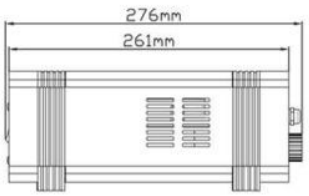


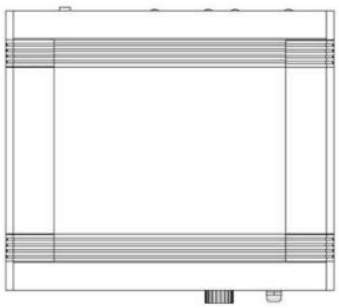
Average power stability



Machine Drawing







High-power Thulium doped Fiber Amplifier - TDFA HP

TDFA-HP is a high-power Tm-doped fiber amplifier, with maximum customizable power up to 5W. It uses all-fiber amplification technology and features high output power, a wide operating wavelength range and low noise. The amplifier wavelength and type is selectable to meet users' power amplification requirements within the wavelength range of 1880-2050nm. There are customization options for single-frequency, all-polarization-maintaining and short-pulsed operation.

Key Features

- Wide gain bandwidth
- High signal-to-noise ratio
- Excellent Power stability
- High power output

Applications

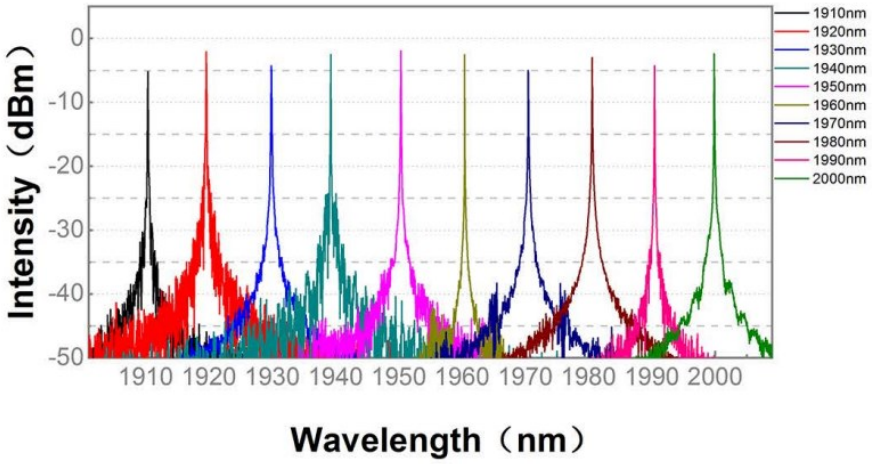
- Mid-IR frequency conversion
- Mid-IR spectroscopy analysis
- Silicon photonics
- Fibre communication system

Main Specification

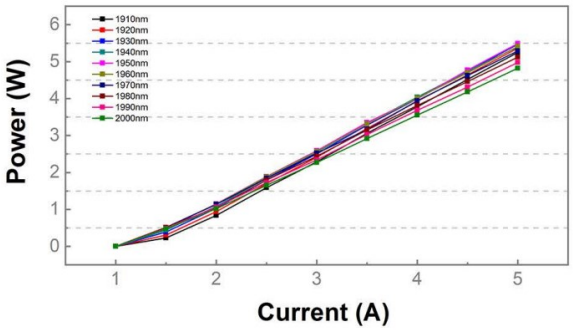
Laser Parameters		
Operating Wavelength	nm	1900-2050 nm
Gain Peak Wavelength	nm	1950 nm
Saturation Power	W	1 W, 3 W, 5 W
Beam Quality	MHz	TEM_{00},M2<1.2
Input Power	mW	10 mW
Output Type		FC/APC Connector, spatial collimation output (>1 W)
Electrical, Environmental and Mechanical Parameters		
Supply Voltage	VAC	100-240
Operational Temperature Range	°C	15-35
Operational Humidity Range	%	20-80 (non-condensing)
Weight	kg	4.6
Dimensions	mm (LxWxH)	306 x 276 x 111.6
Cooling		Air Cooling

Test Data

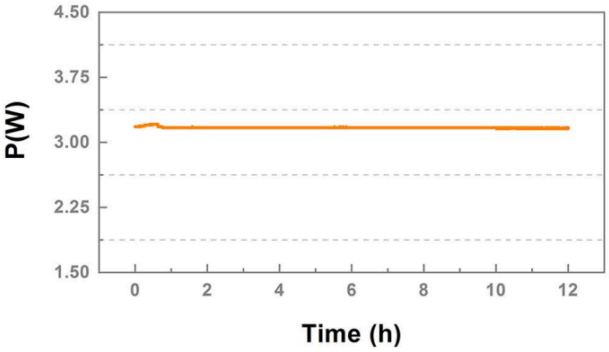
Output Spectrum



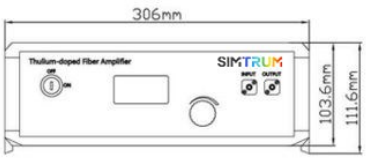
Output Power Curve

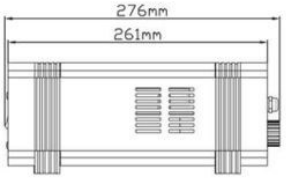


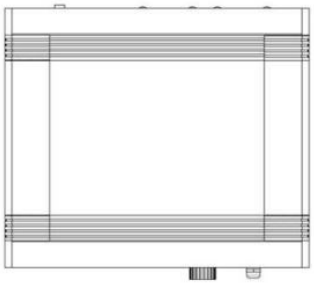
Output Power Stability



Machine Drawing







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