



Thulium doped Fiber Amplifier

Standard / High-power



2022 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.

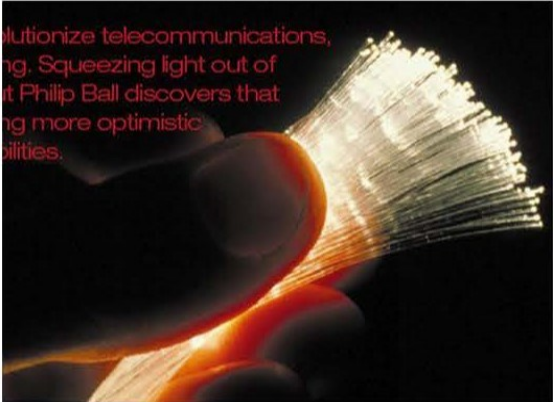
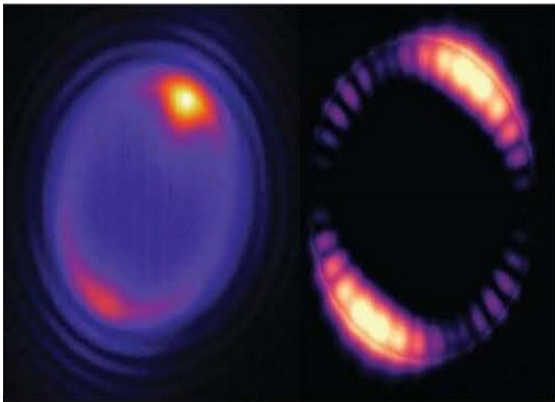


Key Features

- 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

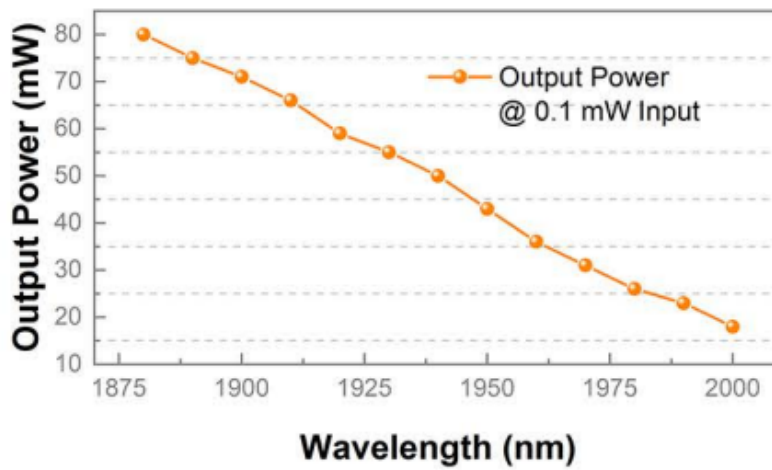


Main Specification

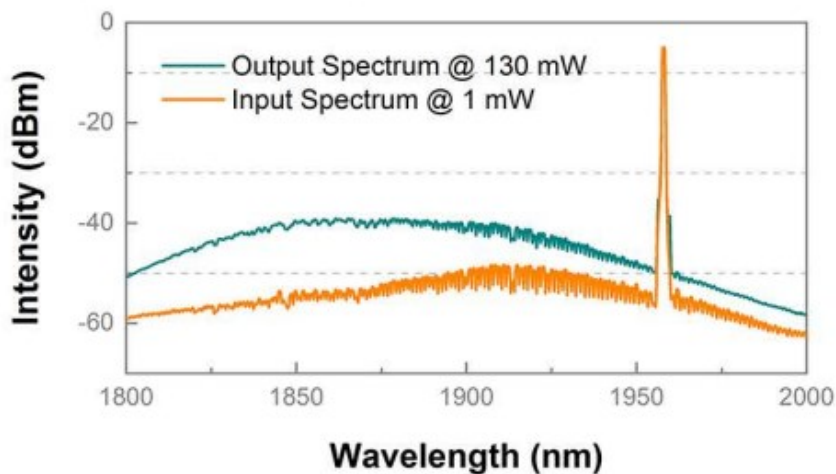
| Laser Parameters | | | |
|---|---------------------|---------------------|---------------------------------------|
| Operating Wavelength | 1800-2000 nm | Beam Quality | TEM00IIM2<1.2 |
| Gain Coefficient | >20 dB | Output Polarization | Random / linear polarization |
| Saturation Power | >100 mW | Output Type | SMF28e/PM1950 Fiber, FC/APC Connector |
| Average Power Stability | <0.5 RMS (24h@25°C) | | |
| Electrical, Environmental and Mechanical Parameters | | | |
| Supply Voltage | 100-240 VAC | Weight | 4.6 kg |
| Operational Temperature Range | 15-35 °C | Dimensions | 306x276x111.6 mm |
| Operational Humidity Range | 20-80% | Cooling | Air cooling |

Test Data

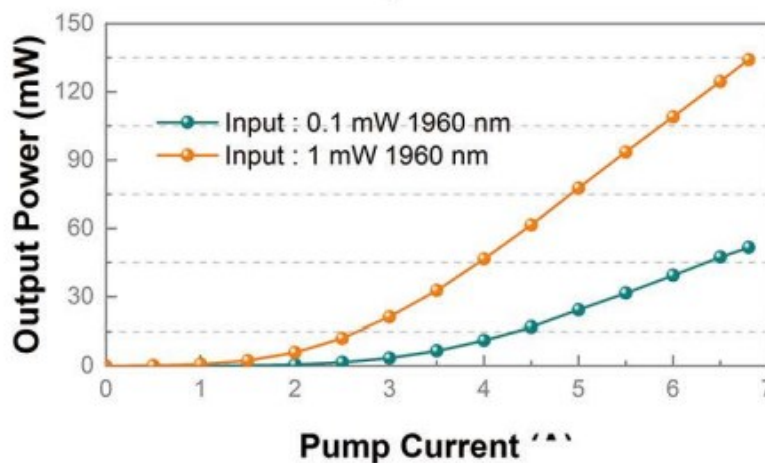
Different wavelength amplification



Comparison of input and output Spectrum

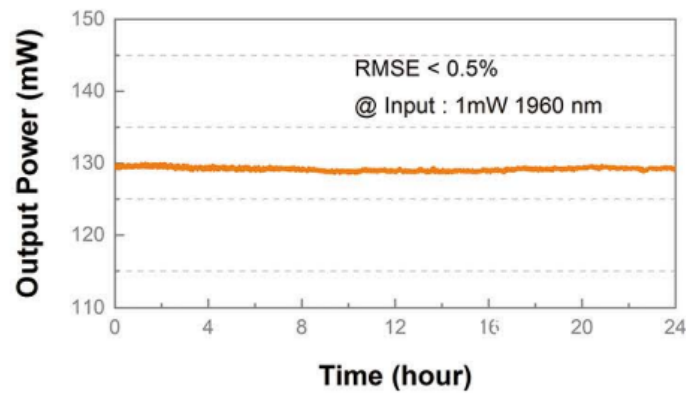


Current power curve

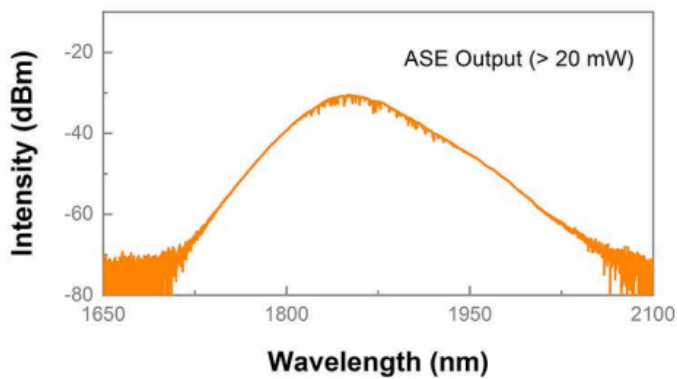


Test Data

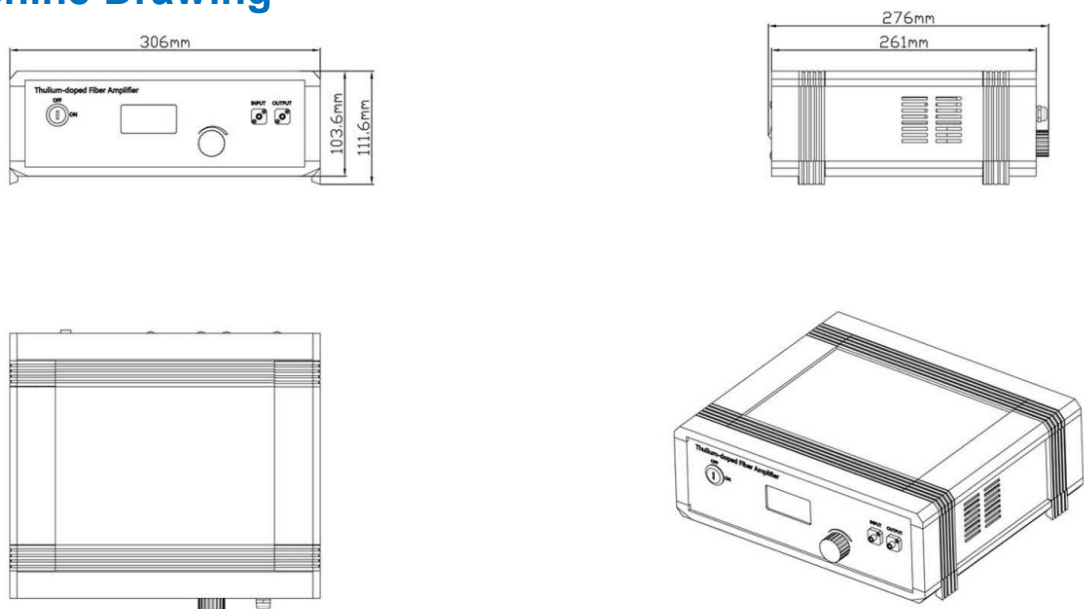
Average power stability



ASE Output



Machine Drawing



High-power Thulium doped Fiber Amplifier - TDFA HP

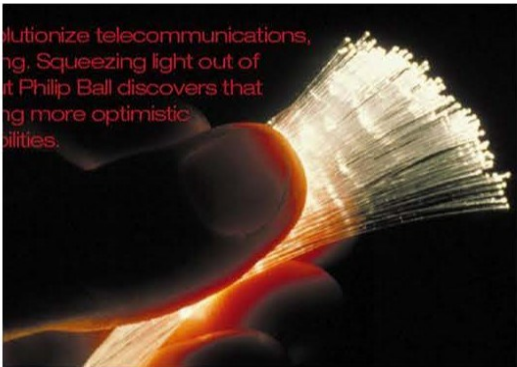
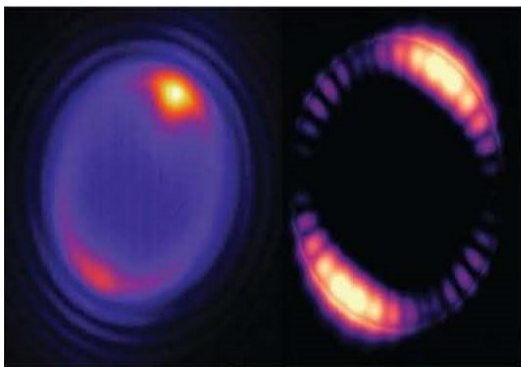
TDFA-HP is a high-power Tm-doped fiber amplifier, with maximum customizable power up to 5W. It uses all-fiber amplification technology and features high output power, a wide operating wavelength range and low noise. The amplifier wavelength and type is selectable to meet users' power amplification requirements 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

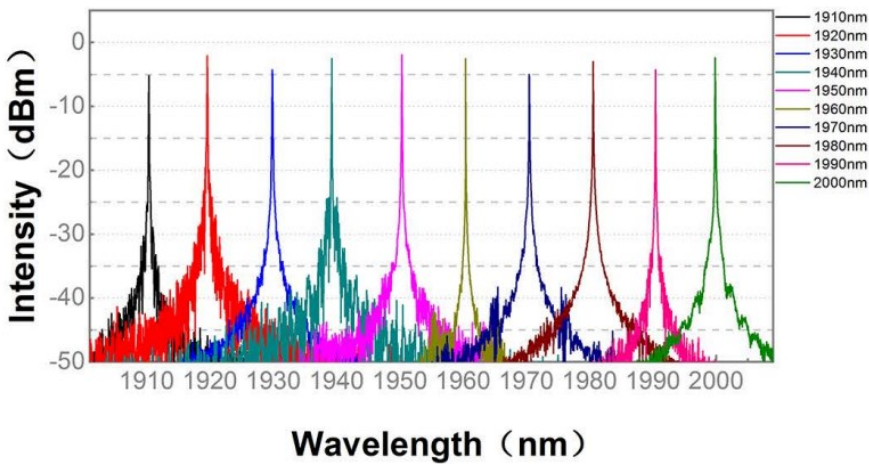


Main Specification

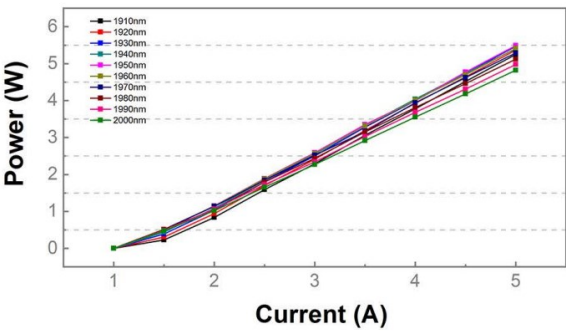
| Laser Parameters | | | |
|---|---------------|----------------------|---|
| Operating Wavelength | 1900-2050 nm | Gain Peak Wavelength | 1950 nm |
| Input Power | 10 mW | Beam Quality | TEM00HM2<1.2 |
| Saturation Power | 1 W, 3 W, 5 W | Output Type | FC/APC Connector, spatial collimation output (>1 W) |
| Electrical, Environmental and Mechanical Parameters | | | |
| Supply Voltage | 100-240 VAC | Weight | 4.6 kg |
| Operational Temperature Range | 15-35 °C | Dimensions | 306x276x111.6 mm |
| Operational Humidity Range | 20-80% | Cooling | Air cooling |

Test Data

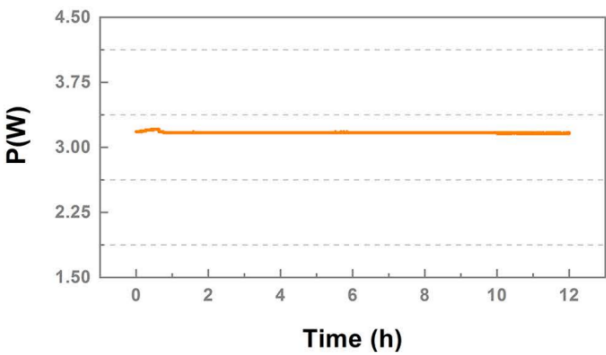
Output Spectrum



Output Power Curve



Output Power Stability



Machine Drawing

