Light

For current pricing, please see our website.

## CHAPTERS V

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**Optical Amplifiers** 

**ASE Sources** 

## **Thulium-Doped Fiber Amplifier**



## Features

- Broad, 1.8 2.0 μm Gain Region
  Excellent as a
- Ideal for Amplifying
- Short Pulses

## Applications

- Passively Mode-Locked Fiber Lasers
- Broadband ASE Sources
- High-Speed Signal Amplification
- Absorption Spectroscopy
- Nonlinear Optics



The TDFA-1900 Thulium-Doped Fiber Amplifier, which is manufactured by PicoLuz, a Strategic Partner of Thorlabs, offers gain over a broad,  $1.8 - 2.0 \mu m$  wavelength range. To span this wide range in an all-fiber device, the amplifier uses broadband fiber components. The core-pumped amplifier is ideal for amplifying low-power inputs with high optical signal-to-noise ratios. These characteristics make the amplifier well suited for amplifying broadly tunable and stable semiconductor seed sources to power levels up to 100 mW.

The amplifier is designed using a core-pumped gain fiber such that the amplification band matches the tuning range of Thorlabs' TLK-L1900M and TLK-L1950R Tunable Laser Kits. These InP-based seed sources provide single frequency, broadly tunable lasing with excellent stability and high polarization extinction ratios. The TDFA-1900 amplifier increases the power from these sources while

maintaining a single-frequency output with a high polarization extinction ratio, making it excellent for use in applications such as absorption spectroscopy and nonlinear optics.

Due to the amplifier's short fiber length, it can be used with short-pulse amplification. Additionally, its broad amplification band makes it suitable for use with broadband ASE sources.

PERFORMANCE SPECIFICATIONS	
Small Signal Gain at Peak Wavelength	>16 dB
Gain Peak Wavelength	1880 ± 20 nm
Gain 3 dB Bandwidth	>110 nm
Small Signal Gain from 1.8 - 2.0 µm	>8.5 dB
Saturation Power (at Peak Wavelength)	>19 dBm (>80 mW)

ITEM #	\$	£	€	RMB	DESCRIPTION
TDFA-1900	CALL	CALL	CALL	CALL	Thulium-Doped Fiber Amplifier (1.8 - 2.0 µm)

