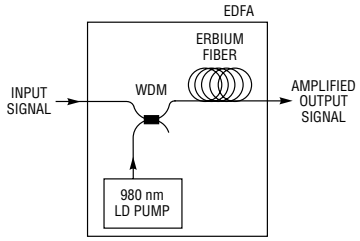
# Erbium-Doped Fiber

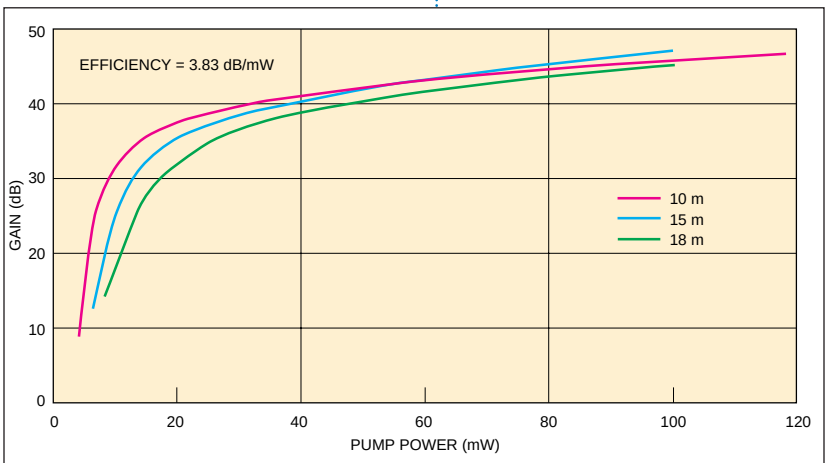
**Newport's Erbium-Doped Fiber** provides the basic building block to fiber optic amplifiers used in broadband optical networks and CATV applications in the 1550 nm fiber optic transmission window. Having an erbium dopant concentration of 220 ppm, and co-doped with alumina, this fiber can deliver gain-efficiencies in excess of 3.5 dB/mW, when pumped with a 980 nm laser diode. Small signal gains of greater than 20 dB have been achieved with only 12 meters of this fiber, over a gain bandwidth of greater than 30 nm.




*Typical Erbium-Doped Fiber Amplifier (EDFA) configuration for low noise applications.*

## Specifications

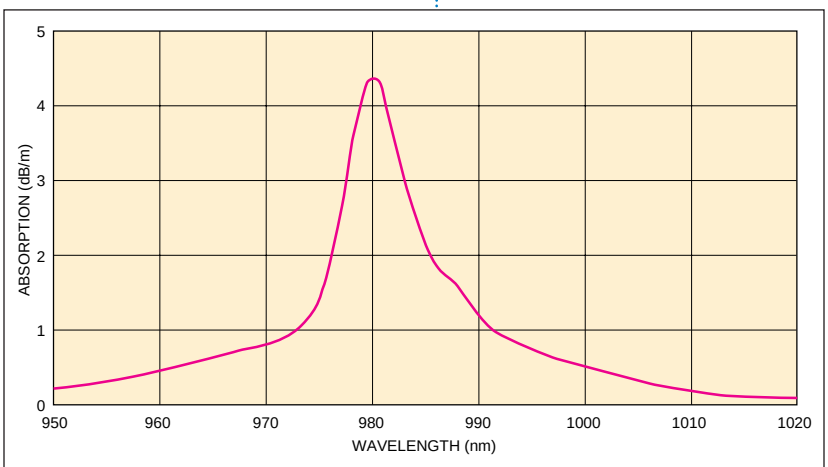
| Model | F-EDF |
|---|---|
| Operating Wavelength | 980/1550 nm |
| Index Profile | Step |
| NA | 0.21 |
| Mode Field Diameter | 3.5 µm |
| Cladding/Coating Diameter | 125/245 µm |
| Efficiency w/980 nm Pump | 3.83 dB/mW |
| Absorption @ 1535/978 nm | 5.5/5.2 dB/m |
| Cut-Off Wavelength | 880 nm |
| Background Loss | 3.1 dB/km |




*Typical amplifier gain vs 980 nm pump power. Note that amplifier gain performance is affected by input signal wavelength, bandwidth and saturation level.*

## Ordering Information

For Ordering Information, please see page 5-33.




*Typical absorption spectrum of the fiber around 980 nm.*