

## SPFA Series

# SHORT PULSE OPTICAL FIBER AMPLIFIERS

PriTel manufactures EDFAs with excellent sub-picosecond pulse performance—with very low dispersion and low PMD without the use of dispersion-compensating fiber that cause high nonlinearities. As seen on the next page, these amplifiers do not significantly change the input pulsewidth.

Certified shortpulse performance to **300 fs** or to **600 fs** is available in models from 15 dBm to 24 dBm saturated output. Contact PriTel for information about certified performance to **600 fs** for models from 24 dBm to 33 dBm saturated output.

In the SPFA Series, input power and output power are monitored internally and are displayed on the front information panel.

*SPFA-xx model without  
power monitor option*



*SPFA-xx model with  
power monitor option*

## Specifications

	<b>SPFA-18</b>	<b>SPFA-20</b>	<b>SPFA-23</b>	<b>SPFA-25</b>
Saturated output power	18 dBm	20 dBm	23 dBm	25 dBm
Shortest input pulsewidth without output pulse broadening	<b>300 fs</b> (specify SPFA-XX-03 when ordering, XX = Sat'd P <sub>out</sub> in dBm) or <b>600 fs</b> (specify SPFA-XX-06 when ordering)			
Dispersion	<< 35 fs/nm of spectral bandwidth for SPFA-XX-03 << 70 fs/nm of spectral bandwidth for SPFA-XX-06			
Small signal gain	>30 dB	>32 dB	>35 dB	>35 dB
Optical noise figure	<5.0 dB	<5.5 dB	<6.0 dB	<7.0 dB
Polarization sensitivity	<0.2 dB	<0.2 dB	<0.2 dB	<0.2 dB
PMD	< 0.2 ps	< 0.2 ps	< 0.2 ps	< 0.2 ps
Input power range	-30 to +10 dBm	-30 to +10 dBm	-15 to +10 dBm	-15 to +10 dBm
Wavelength range	1528-1565 nm	1528-1565 nm	1528-1565 nm	1528-1565 nm
Spectral gain flatness with single ch. Input	0.5 dB typical	0.5 dB typical	0.5 dB typical	0.5 dB typical
Dimensions	10 cm x 26 cm x 28 cm	10 cm x 26 cm x 28 cm	10 cm x 26 cm x 28 cm	10 cm x 26 cm x 28 cm
<b>Optical</b>				
Gain medium	Er-doped silica fiber			
Pump source	980-nm diode laser			
Connectors	FC/APC (other connectors available upon request)			
<b>Environmental</b>				
Operating temperature	+15 to 30 °C			
Storage temperature	-20 to 50 °C			
<b>Electrical/ Mechanical</b>				
Operating Voltage	85-264 VAC at 47-63 Hz			
Power consumption	<125 W			



**PriTel, Inc.**

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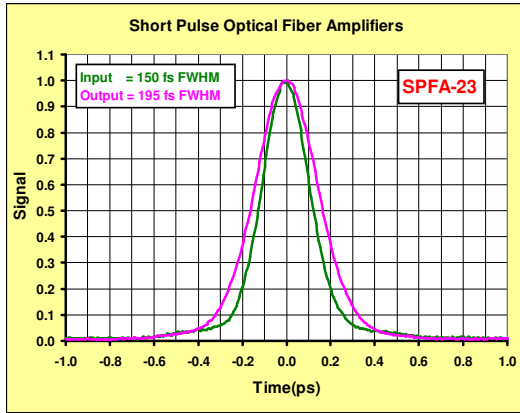
Ph: 630-983-2200, Fx: 630-983-2260 (USA)

E-mail: PriTel@PriTel.com, Internet: www.PriTel.com

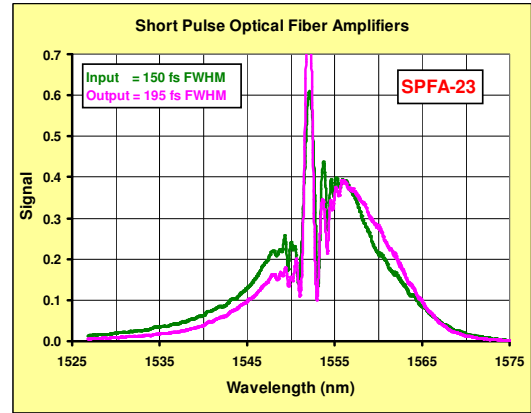
# Typical Performance of PriTel's Short Pulse Optical Fiber Amplifiers

## Amplification of Femtosecond Pulses in Model SPFA-23-300

Autocorrelation Traces  
(10 GHz, 1550 nm)

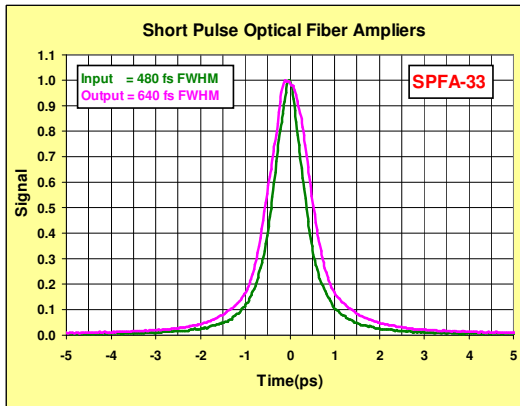


Optical Spectra  
(10 GHz, 1550 nm)

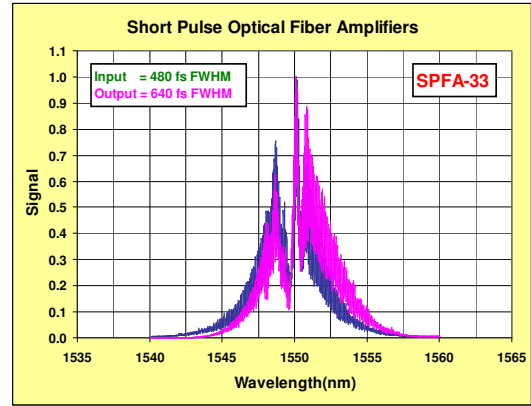


## Amplification of Femtosecond Pulses in Model SPFA-33-700

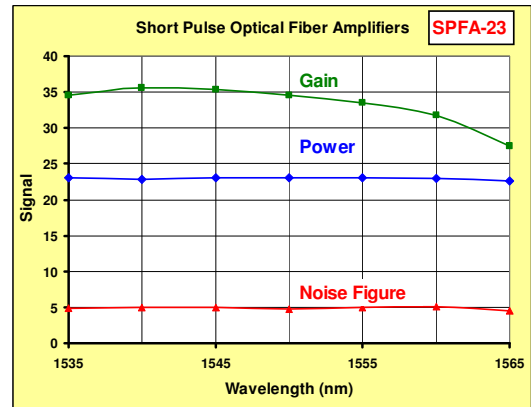
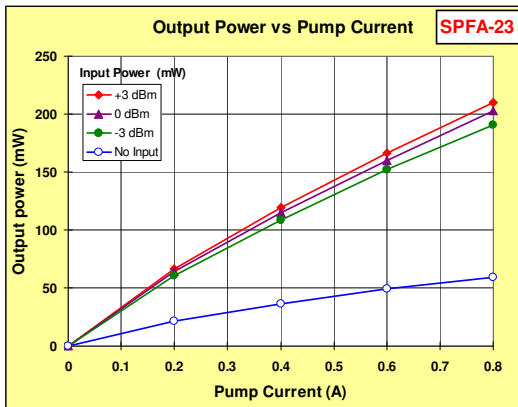
Autocorrelation Traces  
(10 GHz, 1550 nm)



Optical Spectra  
(10 GHz, 1550 nm)



## Output Power from Model SPFA-23



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