

SPA Series

Single Pulse Fiber Amplifiers



SPA Series fiber amplifiers provide low-noise amplification of signals *not* operating in the continuous-wave regime, such as a single optical pulse. In contrast to conventional continuous-wave or average-power amplifiers that rely on saturation conditions, the SPA series provides low-noise amplification that is inherently stable regardless of input pulse energy, duration, or format.

KEY FEATURES

- 10-40 dB optical gain
- 1- μm or telecom band
- ASE noise floor $\leq 1 \mu\text{W}$
- Stable against seed loss
- Out-of-band ASE suppression
- SM or PM amplification

APPLICATIONS

- Finite pulse train amplification
- Remote sensing
- High energy laser seeder pulse
- Infrared systems
- Dynamic transmission electron microscopy

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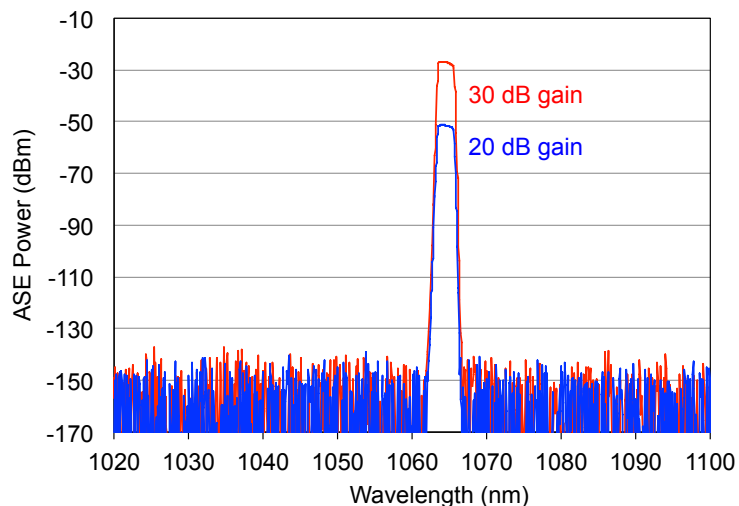
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SPECIFICATIONS

	Standard	Options / Comment	Unit
Gain	10-30	up to 40	dB
Operational Wavelength	typically < 2 nm in 1020-1090 nm or 1520-1600 nm bands		
In-Band ASE Noise Floor	≤ 1	20dB gain	μW ⁽¹⁾
	≤ 10	30dB gain	
	≤ 200	40 dB gain	
Out-of-band ASE Noise Floor	≤ 10	up to 30 dB gain	pW ⁽¹⁾
Temporal Gain Compression	≤ 0.1	-	dB
Polarization Extinction Ratio	18	PM versions only	dB
Input/Output	FC/APC	collimator optional	-
Synchronization to Input	none required		
Power Consumption	≤ 20	-	W

(1): Measured in 0.1-nm bandwidth



**Measured ASE noise floor
(0.1-nm bandwidth)**

CUSTOMIZATION OPTIONS

- Selectable wavelength
- SM or PM
- User-controlled gain
- Broad-band (>10nm) operation
- SBS monitor port
- Long pulse train / moderate rep. rate
- Output collimator
- SBS suppression
- High-energy pulse output