

C波段掺铒光纤小信号放大器

C-band Erbium-doped Fiber Pre-Amplifier

1. 描述 (Description):

C波段掺铒光纤小信号型放大器(简称 PA 放大器)是专用于-45dBm~-25dBm 范围内的 C 波段微弱光信号的放大器,小信号典型增益高达 35~45dB,同时具有较低的噪声指数,通常用在光电探测器之前提高其对弱光信号的探测能力。

The Pre-amplifier is specially used for the amplification of small optical signal in the range of - 45~25dbm. the typical gain of small signal is as high as 35~45dB, and low noise coefficient, suitable for improving the sensitivity before the optical receiver.

2. 特性 (Features):

- 宽波长 Wide wavelength range;
- 高增益 High gain factor;
- 低噪声 Low noise.

3. 应用 (Applications):

- 光纤通信 Optical fiber communication;
- 光纤传感 Optical fiber sensor;
- 光纤激光 Fiber laser.

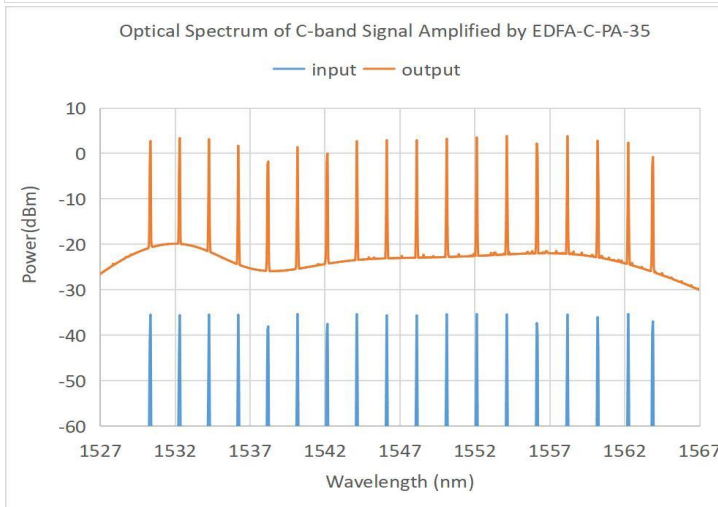
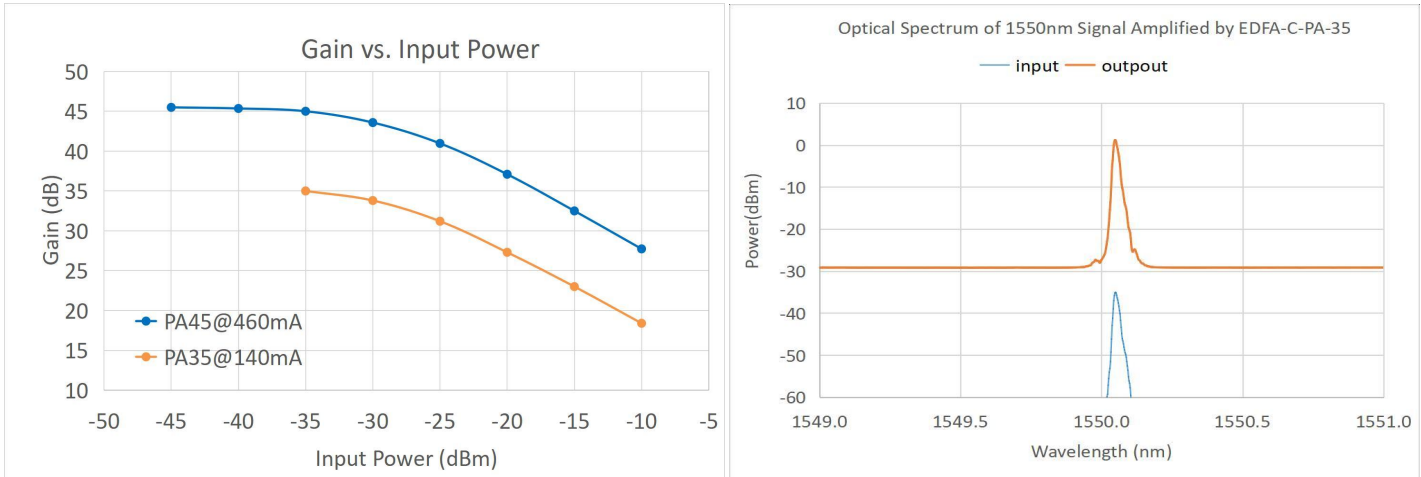
4. 光电特性 (Electro-Optical Characteristics):



参数 Parameters	单位 Unit	参数 Values		备注 Notes
型号 Part number	-	EDFA-PA-35	EDFA-PA-45	
波长范围 Spectral range	nm	1530~1565		C-band
输入功率 Input power	dBm	-35~-25	-45~-25	
增益系数 Gain coefficient	dB	35@-35dBm Input	45@-45dBm Input	35@-25dBm Input
噪声指数 Noise figure	dB	≤4.5		
偏振相关增益 PDG	dB	≤0.3		
偏振模色散 PMP	ps	≤0.5		
输入/输出端隔离度 Input/Output isolation	dB	≥35		
光功率监控 Power monitor	dB	输出光功率监控 Output power		
工作模式 Operating mode	-	自动电流控制 (ACC)		
尾纤和接头类型 Pigtail fiber	-	SMF-28		FC/APC
通信接口 Communication interface	-	Touch screen/DB9 Female(RS232)		Benchtop
		DB9 Female(RS232)		Module
供电 Power supply	-	AC 110~240V, <30W		Benchtop

		DC 5V, <15W	Module
尺寸 Dimensions	mm	260(W)×280(D)×120(H)	Benchtop
		150(W)×125(D)×20(H)	Module
		70(W)×90(D)×15(H)	Module
工作温度 Operating temperature	℃	-5 ~ +55	
工作湿度 Operating humidity	℃	0~70%	

5. 典型测试曲线(Typical Characteristical Curve):



注：该 EDFA 产品可用于工作波长范围内任意单一或多个波长信号的放大，但多波长信号输入时不考虑增益谱平坦性。如本页图，EDFA-C-PA-35 型小信号放大器对 C 波段内的不同波长(图中多个波长非同时输入 EDFA)输入信号都可以实现高增益放大，单个波长输入功率为-35dBm 时，有效增益>35dB，放大后的信号背景噪声比>30dB。

Note: This EDFA can be used for amplifying signals of any single or multiple wavelengths, but the gain spectrum flatness is not considered when inputting multi wavelength signals. As this figure, the EDFA-PA-35 small signal amplifier can achieve high gain amplification for input signals of different wavelengths in the C-band(multiple wavelengths are not simultaneously input to the EDFA in the figure). When the input power of single wavelength is -35dBm, the effective gain is greater than 35dB, and the amplified signal background noise ratio is >30dB.

6. 订购信息(information):

光纤放大器 Fiber Amplifier	放大器类型 EDFA Type	工作波长 Wavelength	小信号增益 Small signal gain	光纤类型 Fiber type	尺寸 Dimension
EDFA	-XX	-X	-XX	XX	-X
Erbium-doped Fiber Amplifier	PA: Pre-Amp	C: C-band	35: 35dB@-35dBm 45: 45dB@-45dBm	SM: SMF-28e	M15: Module M20: Module B: Benchtop