

## LaserPlus Model LP-OA EDFA Module

### Features / Benefits

Compact, full-featured optical Amplifier.

1540nm-1560nm optical range.

Optical output power from +13dBm to +18dBm.

Optical input range of -6dBm to +4dBm.

Optical gain up to 30dB.

Low power dissipation for maximum reliability, 2 Watts typical at the full rated optical output power.

Low Noise Figure - 5dB typical and 5.5dB maximum at -6dBm Optical Input . 6dB typical and 6.5dB maximum at +4dBm Optical Input.

Low Polarization Sensitivity, 0.5dB & 0.5ps Maximum.

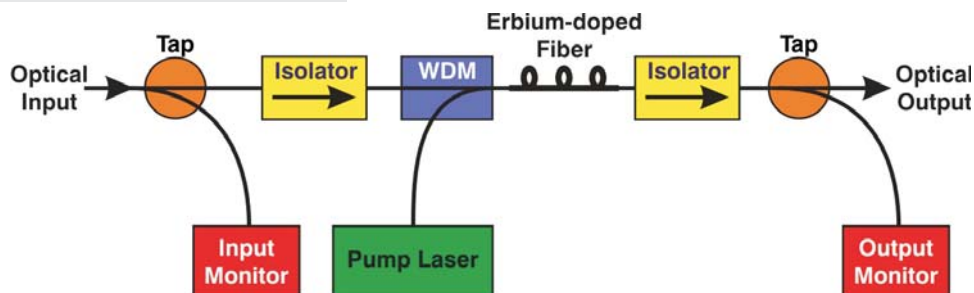
Extensive front panel indicators and SNMP monitoring features.

SC/APC optical connectors.

The Olson Technology, Inc. *LaserPlus* Model LP-OA Erbium Doped Fiber Amplifier (EDFA) is a cost-effective, full featured Optical Amplifier compatible with the LaserPlus product line. Designed for optical amplification of CATV or L-Band signals, the OT-OA EDFA is ideal for CATV Hybrid Fiber Coax (HFC) applications and Fiber-to-the-Premise (FTTP) deployments using Active/Passive Optical Network (AON/PON) architectures. The LP-OA offers simple plug and play operation,

The Model LP-OA EDFA utilizes a high-quality, EDFA gain module that provides optical output powers ranging from +13dBm to +18dBm at the rated optical input power of +3dBm over a wavelength range from 1540nm to 1560nm. The EDFA draws very low power, 2 Watts typically, that maximizes reliability.

The LP-OA includes five front panel indicators for *Optical Input Power*, *Optical Output Power*, *Laser Temperature*, *Pump Enable* and *Pump Status* that allow the health of the unit to be assessed at a glance. The unit also provides extensive SNMP capability that includes the ability to read the following parameters; *Optical Input Power*, *Optical Output Power*, *Module Temperature*, *Pump Laser Current*, *Pump Laser Power*, *Pump Laser Temperature* and alarms for *High Current*, *High Temperature*, *Temperature Stable* and *Laser Enable*.



**Figure 1 - EDFA Block Diagram**

## System Specifications

### Optical Characteristics (with SM 9/125µm Fiber)

	Min	Typ	Max	Units
Optical Output Pwr. <sup>1</sup>	+13		+18	dBm
Optical Input Range <sup>2</sup>	-6		+4	dBm
Gain with -30dBm Opt. In		31		dB
Gain with +3dBm Opt. In		13		dB
Noise Figure	5		6.5	dB
Pump Power Leakage		-30		dB
Optical Return Loss	45			dB
Optical Connector		SC/APC		
Wavelength Range	1540		1550	nm

### Physical Characteristics

	Min	Typ	Max	Units
Weight		1		lbs.
		2.2		kg
Dimensions (W x H x D)	4.5H x 1.125W x 8.75D			in.
	114H x 29W x 222D			

#### NOTES:

- 1) See "Ordering Information" for complete specifications.
- 2) Recommended range. Lower optical powers will give a red light.
- 3) Non-condensing

### Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply - Voltage		+5		V <sub>DC</sub>
Power Supply - Current		320		mA
Power Consumption		2		W
Operating Temperature	0		50	°C
Storage Temperature	-10		60	°C
Humidity <sup>3</sup>	5		95	%

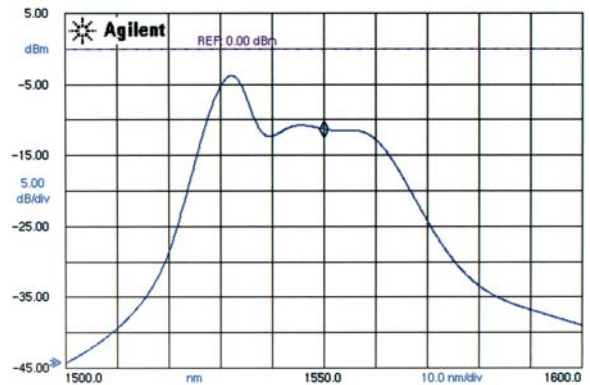


Figure 3 - Typical EDFA ASE Spectrum

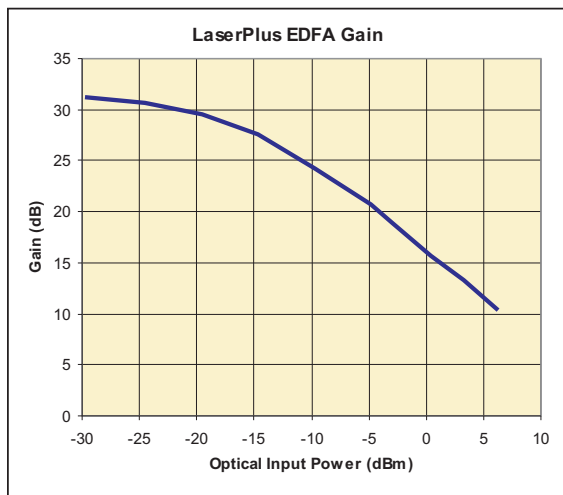


Figure 2 - Typical EDFA Gain

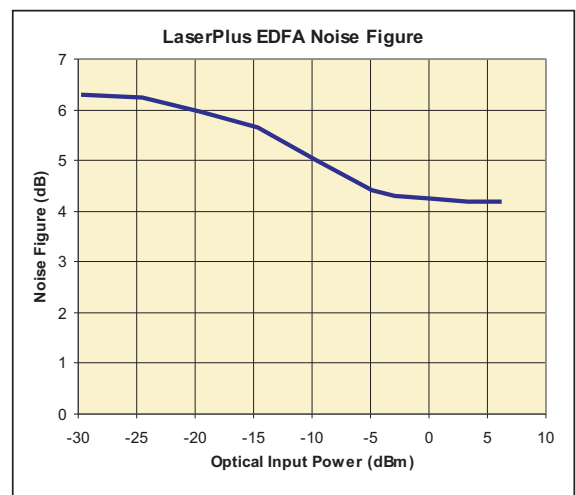


Figure 4 - Typical EDFA Noise Figure

### Ordering Information

Model LP-OA-13-SA  
 Model LP-OA-14-SA  
 Model LP-OA-15-SA  
 Model LP-OA-16-SA  
 Model LP-OA-17-SA  
 Model LP-OA-18-SA

LaserPlus EDFA, +13dBm, SC/APC Connectors  
 LaserPlus EDFA, +14dBm, SC/APC Connectors  
 LaserPlus EDFA, +15dBm, SC/APC Connectors  
 LaserPlus EDFA, +16dBm, SC/APC Connectors  
 LaserPlus EDFA, +17dBm, SC/APC Connectors  
 LaserPlus EDFA, +18dBm, SC/APC Connectors