pEDFA-XPON

DEVICE

High-Power, Multiport EDFA for xPON Overlay

OVERVIEW

The Optilab pEDFA-XPON Series are innovative, high-power EDFA's with up to +40 dBm and up to 32-output ports, with each port including WDM Multiplexers (MUX) for xPON overlay. Designed for Video over xPON networks, the pEDFA-XPON provides up to +19 dBm output per port for greater network coverage. Each of the 32 ports has a built in WDM to redirect the xPON between the OLT and ONU with 1310 nm and 1490 nm. The pEDFA-XPON uses multimode laser pumping, all-fiber combiner and Er/Yb double-clad, large-core fiber technologies to achieve high output power in conjunction with low cost. Constructed with long term uninterrupted service in mind, the pEDFA-XPON provides the best cost/performance ratio in the industry. Contact Optilab for more information.

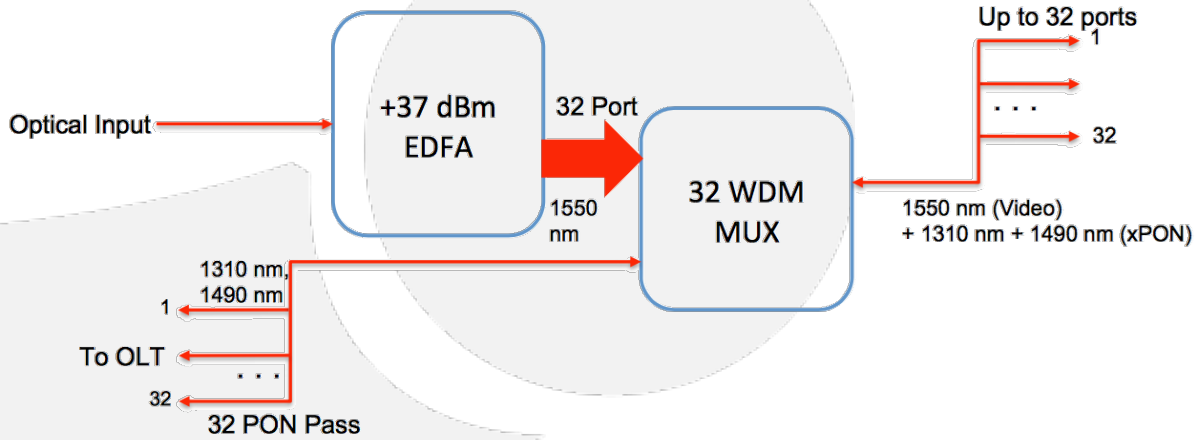
FEATURES

- Noise figure of 4.5 dB
- Supports SNMP
- 2RU housing
- 1 year warranty
- 32-port WDM multiplexer for PON
- +19 dBm output power per port
- Up to +37 dBm total output power

USE IN

- RFoG
- Video + EPON
- Video +GPON
- For RUS/USDA projects
- Deep Fiber HFC

FUNCTIONAL DIAGRAM



pEDFA-XPON

SPECIFICATIONS

EDFA	
Operating Wavelength Range	1540 nm to 1570 nm
EDFA Output Power Level	+34 to +40 dBm available
EDFA Input Power	-5 to +10 dBm
Number of Ports	16 or 32 ports available
Output Power Per Port	See Chart
Port to Port Variation	± 0.5 dB max.
Noise Figure (NF)	4.5 dB typ.
Residual Pump Power	-30 dBm/nm max.
Optical Return Loss	50 dB min.
Input/Output Optical Isolation	30 dB min.
Output Power Stability	± 0.2 dB over 8 hours max.
Input/Output Fiber Type	Corning SMF-28
MULTIPLEXER	
Passing Wavelength	1310 nm and 1490 nm
Insertion Loss	< 1 dB
Isolation	> 20 dB
MECHANICAL	
Operating Temperature Range	-10 °C to +55 °C
Storage Temperature Range	-40 °C to +70 °C
Power Supply	110 – 220 V AC, 43 – 63 Hz AC; 48 V DC
Optical Connectors	Duplex SC/APC standard
Power Consumption	80 W max.
Housing Dimensions	2RU 19" (W) x 17.5" (D) x 3.5" (H)
Control/Monitoring	Laser Temperature, EDFA Power
Remote Interface	SNMP
Alarm	Over Temperature, Over Current

ORDERING OPTIONS

pEDFA-XPON-xx-yy

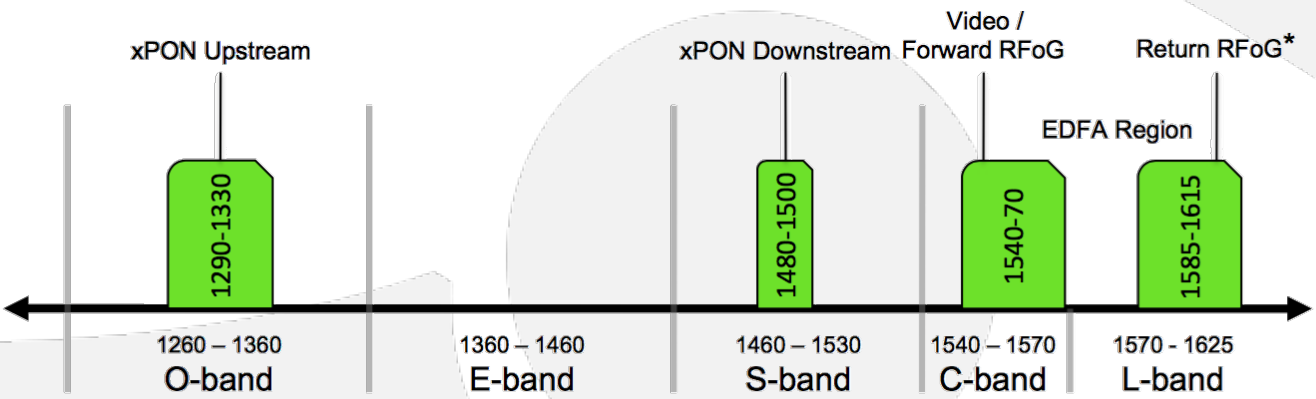
xx Output Power Level
yy Number of Output Ports

pEDFA-XPON

Configural Specifications			
Part Number	EDFA	Number of Ports	Output Power/Port
pEDFA-34-16	+34 dBm	16	+19 dBm
pEDFA-34-32	+34 dBm	32	+16 dBm
pEDFA-37-16	+37 dBm	16	+22 dBm
pEDFA-37-32	+37 dBm	32	+19 dBm
pEDFA-40-32	+40 dBm	32	+22 dBm

WAVELENGTH ALLOCATION PLAN

The pEDFA series supports a 1550 nm video forward path wavelength for downstream signals. PON utilizes 1490 nm and 1310 nm. The pEDFA can amplify all CWDM wavelengths. 1610 nm is the return path wavelength for upstream signals. Below is an illustration of all of the wavelength allocations.



*pEDFA series can be incorporated with RFoG return path capabilities

pEDFA-XPON

pEDFA SERIES INSTALLATION WITH VIDEO + XPON OVERLAY

The pEDFA series provides a robust and reliable amplification solution for 1550 nm Video overlay utilized by xPON networks. With the flexibility to handle small to mid-sized municipal and rural networks, these EDFA's can meet the demanding requirements of large Tier 1 service providers, while being versatille for Tier 2 & 3 systems. The RFoG + xPON with pEDFA can provide service for as many as 2,048 subscribers for up to 10 km without the need for amplification.