

Lightem LA58 series High-power Multi-ports output CATV EDFA (1540~1563nm)

LA58 series is a high power multi-ports optical amplifier with gain spectrum band within 1540~1563nm. With the built in CWDM, it is designed for the application of CATV with OLT PON (ie. 1310/1490 & 1550nm). It offers a flexible and low-cost solution for CATV large area coverage of metropolises and medium-sized cities. LA58 has extremely low noise figure, the entire unit adopts twin-stage amplification, and the pre-amplifier adopts low noise EDFA, output cascade adopts high power EYDFA. When input optical power $P_{in}=0\text{dBm}$, the noise figure of unit is: Typ $\leq 4.5\text{dB}$, Max $\leq 5.5\text{dB}$ Unlike other kind of product which need high optical power input to maintain lower noise figure.

LA58 LCD at the front panel offers the work index of all equipment and warning alarms. The laser will switch off automatically if optical power is missing, which offers security protection for the laser. Serial commutation (RS232) and SNMP network management is available as an option. All the optical port of optical amplifier can be installed in the front panel or back panel.

- LA58A:1RU rack, total output power $>5000\text{mW}$, offers at most 16 optical outputs
- LA58B:2RU rack, total output power $>13000\text{mW}$, offers at most 64 optical outputs
- LA58C:3RU rack, total output power $>32000\text{mW}$, offers at most 128 optical outputs
- LA58E:5RU rack, total output power $>80000\text{mW}$, offers at most 256 optical outputs



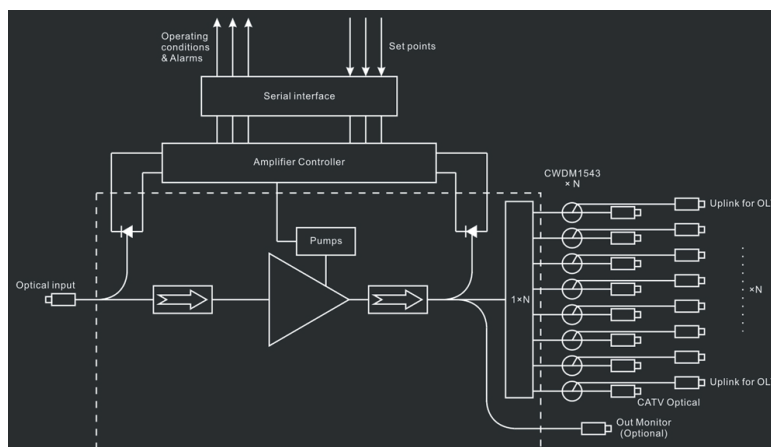
FEATURES

- Each output optical port is with built-in high performance
- CWDM, single fiber three wavelengths, which can save optical fiber resources largely.
- Dual power supply optional, 1+1 backup
- Chassis height is optional: 1U, 2U, 3U, 5U
- 5U rack up to optional 256 output optical ports
- Can compatible with any FTTx PON technology: EPON/GEPON, GPON
- Low noise figure (Typ $\leq 4.5\text{dB}$, Max $\leq 5.5\text{dB}$)
- Optional RS232, SNMP
- Telecom level safety reliability and network management.
- Simplified machine-room links, improve the system reliability, and largely reduce the network maintenance cost.
- Efficient space, Simple and reliable in construction/maintenance
- Built-in low noise pre-amplifier, not necessary EDFA cascade, extremely lower the CNR, MER degradation of the system
- Total output power optional 500~80000mW (27~49dBm)
- The best cost performance in industry

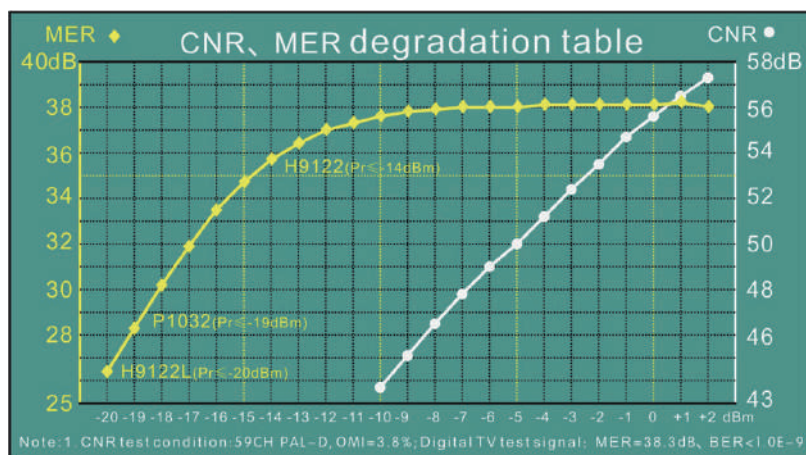
APPLICATION

- FTTx PON
- RFoG

OPTO ELECTRICAL DIAGRAM



APPLICATION REFERENCE



SPECIFICATIONS

Optic Features	Min	Typ	Max	Supplement
Operating wavelength range	1540 nm		1563 nm	CATV
OLT pass wavelength		1310/1490		
CATV pass wavelength loss			0.8 dB	
OLT pass wavelength loss			0.8 dB	1550nm
CATV & OLT isolation	40 dB			1310/1490nm
Input power	-10 dBm		+10 dBm	
Total output power	27/33/39/46 dBm		37/41/45/49 dBm	1U/2U/3U/5U
Number of output port			16/64/128/256 pcs	1U/2U/3U/5U
Difference of each output power	-0.5 dB		0.5 dB	
Output power adjustable range	-6 dBm		0	
Noise figure (Pin=0dBm)		4.5/5.0 dB	5.5/6 dB	LA5837(1x / 2x)
Polarization dependence loss			0.3 dB	
Polarization dependence gain			0.4 dB	
Polarization mode dispersion			0.3 ps/nm	
Input/output isolation	30 dB			
Pump power leakage			-30 dBm	APC
Echo loss	55 dB			
General feature				
Serial interface		RS232		
SNMP network management interface		RJ45		
Power supply	90 V		265 V	220VAC
	30V		72 V	-48VDC
Power consume			50/84/189/289	1U/2U/3U/5U
Work temp.	-5 W		65 W	
Storage temp.	-40°C		80 °C	
Relative humidity	5%		95%	
General Features: Size (W)×(D)×(H)		19 × 14.3 × 1.75 / 483 × 363 × 44 mm		1RU (19")
		19 × 14.7 × 3.5 / 483 × 373 × 89 mm		2RU (19")
		19 × 14.7 × 5.25 / 483 × 373 × 133.35 mm		3RU (19")
		19 × 14.7 × 8.25 / 483 × 373 × 209.55 mm		5RU (19")

Remark: The output power of EDFA can be customized by user.

ORDERING INFORMATION

Model	Total output power	Number of output	Each port output power	Connector
LA5827A-08	27dBm(500mW)	8	16	SC/APC,LC/APC
LA5828A-08	28dBm(630mW)	8	17	SC/APC,LC/APC
LA5829A-08	29dBm(800mW)	8	18	SC/APC,LC/APC
LA5830A-08	30dBm(1000mW)	8	19	SC/APC,LC/APC
LA5830A-16		16	15.5	LC/APC
LA5831A-08	31dBm(1260mW)	8	20	SC/APC,LC/APC
LA5831A-16		16	16.5	LC/APC
LA5831B-32		32	13	SC/APC,LC/APC
LA5832A-08	32dBm(1600mW)	8	21	SC/APC,LC/APC
LA5832A-16		16	17.5	LC/APC
LA5832B-32		32	14	SC/APC,LC/APC
LA5833A-08	33dBm(2000mW)	8	22	SC/APC,LC/APC
LA5833A-16		16	18.5	LC/APC
LA5833B-32		32	15	SC/APC,LC/APC
LA5834A-08	34dBm(2500mW)	8	23	SC/APC,LC/APC
LA5834A-16		16	19.5	LC/APC
LA5834B-32		32	16	SC/APC,LC/APC
LA5835A-08	35dBm(3200mW)	8	24	SC/APC,LC/APC
LA5835A-16		16	20.5	LC/APC
LA5835B-32		32	17	SC/APC,LC/APC
LA5836A-08	36dBm(4000mW)	8	25	SC/APC,LC/APC
LA5836A-16		16	21.5	LC/APC
LA5836B-32		32	18	SC/APC,LC/APC
LA5837A-08	37dBm(5000mW)	8	26	SC/APC,LC/APC
LA5837A-16		16	22.5	LC/APC
LA5837B-32		32	19	SC/APC,LC/APC
LA5837B-64		64	15.5	LC/APC
LA5838B-32	38dBm(6300mW)	32	20	SC/APC,LC/APC
LA5838B-64		64	16.5	LC/APC
LA5839B-32	39dBm(8000mW)	32	21	SC/APC,LC/APC
LA5839B-64		64	17.5	LC/APC
LA5840B-32	40dBm(10000mW)	32	22	SC/APC,LC/APC
LA5840B-64		64	18.5	LC/APC
LA5840C-128		128	15	LC/APC
LA5841B-32	41dBm(13000mW)	32	23	SC/APC,LC/APC
LA5841B-64		64	19.5	LC/APC
LA5841C-128		128	16	LC/APC
LA5842C-64	42dBm(16000mW)	64	20.5	SC/APC,LC/APC
LA5842C-128		128	17	LC/APC
LA5843C-64	43dBm(20000mW)	64	21.5	SC/APC,LC/APC
LA5843C-128		128	18	LC/APC
LA5844C-128	44dBm(25000mW)	128	19	LC/APC
LA5844E-256		256	15.5	LC/APC
LA5845C-128	45dBm(32000mW)	128	20	LC/APC
LA5845E-256		256	16.5	LC/APC
LA5846E-128	46dBm(40000mW)	128	21	SC/APC,LC/APC
LA5846E-256		256	17.5	LC/APC
LA5847E-128	47dBm(50000mW)	128	22	SC/APC,LC/APC
LA5847E-256		256	18.5	LC/APC
LA5848E-256	48dBm(64000mW)	256	19.5	LC/APC
LA5849E-256	49dBm(80000mW)	256	20.5	LC/APC

Remark: 1. All EDFAs in LA5800 series with specified output power and output ports can be in 2U casing.

2. Please contact with Lightem for detailed datasheet of EDFA if special output power and output ports configuration is required.