

Lightem LA54 series High-power Multi-ports output CATV EDFA (1540~1563nm)

LA54 series is a high power multi-ports optical amplifier with gain spectrum band within 1540~1563nm. It is designed for the application of CATV or 1~8 continuous banding channel (ITU wavelength). It offers a flexible and low-cost solution for CATV large area coverage of metropolises and medium-sized cities.

LA54 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 EDFA. 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.

LA54 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.

- LA54A:1RU rack, total output power $>5000\text{mW}$, offers at most 32 optical outputs
- LA54B:2RU rack, total output power $>13000\text{mW}$, offers at most 128 optical outputs
- LA54C:3RU rack, total output power $>32000\text{mW}$, offers at most 256 optical outputs
- LA54E:5RU rack, total output power $>80000\text{mW}$, offers at most 512 optical outputs



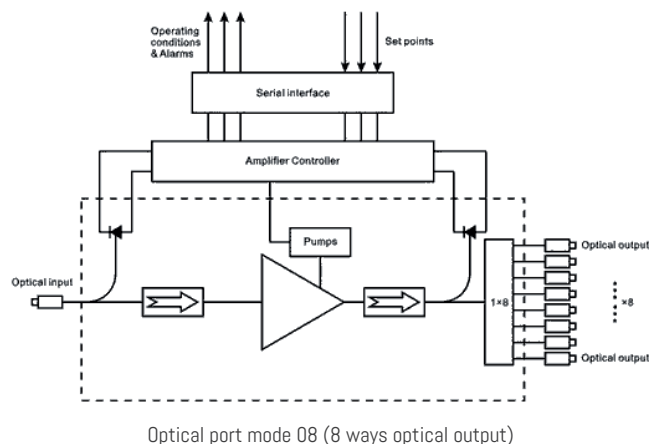
FEATURES

- Dual power supply optional, 1+1 backup
- Chassis height is optional: 1U, 2U, 3U, 5U
- 5U rack up to optional 512 output optical ports
- 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.
- 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

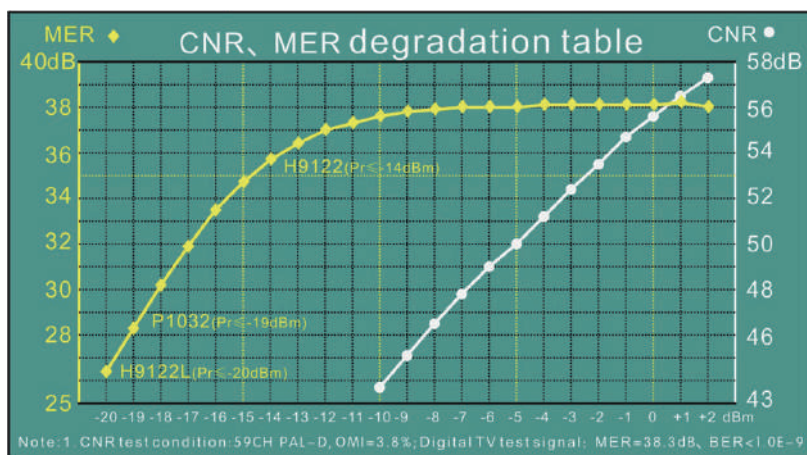
APPLICATION

- AM CATV
- Digital CATV
- DBS & MMDS
- FTTx PON

OPTO ELECTRICAL DIAGRAM



APPLICATION REFERENCE



FTTH FTTB optical receive Excellent CNR, MER performance

SPECIFICATIONS

Optic Features	Min	Typ	Max	Supplement
Operating wavelength range	1540 nm		1563 nm	CATV
Input power	-10 dBm		+10 dBm	
Total output power 1)	27/33/39/46 dBm		37/41/45/49 dBm	1U/2U/3U/5U
Number of output port			32/128/256/512 pcs	1U/2U/3U/5U
Difference of each output power	-0.5 dB		0.5 dB	
Output power adjustable range	-6		0	
Noise figure (Pin=0dBm)		4.5/5.0 dB	5.5/6 dB	LA5437(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			
Pump power leakage			-30 dBm	
Echo loss	55 dB			APC
General feature				
Serial interface		RS232		
SNMP network management interface		RJ45		
Power supply	90 V		265 V	220VAC
	30		72 V	-48VDC
Power consume	-5 W		50/84/189/289	1U/2U/3U/5U
Work temp.	-40°C		65 W	
Storage temp.	5°C		80 °C	
Relative humidity			95%	
Size (W) × (D) × (H)		119 × 14.3 × 1.75mm / 483 × 363 × 44		1RU (19")
		19 × 14.7 × 3.5mm / 483 × 373 × 89		2RU (19")
		19 × 14.7 × 5.25mm / 483 × 373 × 133.35		3RU (19")
		19 × 14.7 × 8.25mm / 483 × 373 × 209.55		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
LA5427A-08	27dBm(500mW)	8	16.5	SC/APC,LC/APC
LA5428A-08	28dBm(630mW)	8	17.5	SC/APC,LC/APC
LA5429A-08	29dBm(800mW)	8	18.5	SC/APC,LC/APC
LA5429A-16		16	15	
LA5430A-08	30dBm(1000mW)	8	19.5	SC/APC,LC/APC
LLA5430A-16		16	16	
LA5431A-08	31dBm(1260mW)	8	20.5	SC/APC,LC/APC
LA5431A-16		16	17	
LA5432A-08	32dBm(1600mW)	8	21.5	SC/APC,LC/APC
LA5432A-16		16	18	
LA5433A-16	33dBm(2000mW)	16	19	SC/APC,LC/APC
LA5433A-32		32	15.5	LC/APC
LA5434A-16	34dBm(2500mW)	16	20	SC/APC,LC/APC
LA5434A-32		32	16.5	LC/APC
LA5435A-16	35dBm(3200mW)	16	21	SC/APC,LC/APC
LA5435A-32		32	17.5	LC/APC
LA5436B-16	36dBm(4000mW)	16	22	SC/APC,LC/APC
LA5436B-32		32	18.5	SC/APC,LC/APC
LA5436B-64		64	15	LC/APC
LA5437B-32	37dBm(5000mW)	32	19.5	SC/APC,LC/APC
LA5437B-64		64	16	LC/APC
LA5438B-32	38dBm(6300mW)	32	20.5	SC/APC,LC/APC
LA5438B-64		64	17	LC/APC
LA5439C-32	39dBm(8000mW)	32	21.5	SC/APC,LC/APC
LA5439C-64		64	18	
LA5440C-64	40dBm(10000mW)	64	19	SC/APC,LC/APC
LA5440C-128		128	15.5	
LA5441C-64	41dBm(13000mW)	64	20	SC/APC,LC/APC
LA5441C-128		128	16.5	
LA5442C-64	42dBm(16000mW)	64	21	SC/APC,LC/APC
LA5442C-128		128	17.5	
LA5443C-64	43dBm(20000mW)	64	22	SC/APC,LC/APC
LA5443C-128		128	18.5	
LA5444C-128	44dBm(25000mW)	128	19.5	SC/APC,LC/APC
LA5444C-256		256	16	LC/APC
LA5445C-128	45dBm(32000mW)	128	20.5	SC/APC,LC/APC
LA5445C-256		256	17	LC/APC
LA5446E-128	46dBm(40000mW)	128	21.5	SC/APC,LC/APC
LA5446E-256		256	18	
LA5447E-256	47dBm(50000mW)	256	19	SC/APC,LC/APC
LA5447E-512		512	15.5	LC/APC
LA5448E-256	48dBm(64000mW)	256	20	SC/APC,LC/APC
LA5448E-512		512	16.5	LC/APC
LA5449E-256	49dBm(80000mW)	256	21	SC/APC,LC/APC
LA5449E-512		512	17.5	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.