

1550nm Erbium Doped Fiber Amplifier • HA5100 Series

Technical Specification

CONTENT

| | | |
|-----|---------------------------------|---|
| 1.0 | PRODUCT DESCRIPTION..... | 1 |
| 2.0 | PRODUCT FEATURE..... | 2 |
| 3.0 | MAIN APPLICATION | 2 |
| 4.0 | TECHNIQUE INDEX | 3 |
| 5.0 | OPTICAL/ELECTRICAL SCHEMA | 3 |
| 6.0 | PRODUCT SERIES | 5 |

1.0 PRODUCT DESCRIPTION

HA5100 series is a CATV booster EDFA with gain spectrum band within 1540~1565nm. It is designed for the application of single channel or 1~8 continuous ribbon channels (ITU wavelength). Generally, fiber CATV system operates in single wavelength that has no strict requirement on gain flatness. HA5100 booster amplifier is featured with low NF, high-saturated output power. It is applicable for central bureau, sub-bureau and line relay, as well as other optical communication network. HA5100 is applied most commonly and widely compared with other EDFA in CATV system.

HA5100 adopts the world's top class pump laser and America OFS erbium-doped optical fiber. Perfect APC, ACC and ATC control, excellent design in the ventilation and heat-dissipation ensure the long life and high reliable work of pump laser. RS232 and RJ45 offer serial commutation and SNMP network management port. The LCD at the front panel offers the work index of all equipment and warning alarm. The laser will switch off automatically if optical power is missing, which offers security protection for the laser. All the optical port can be installed in the front panel (also can be in the back panel if customers specify).

HA5100P: The output power is adjustable. Users can adjust the output power in the range of -6dB~0dB with ± 0.2 dB stepping through the button at the front panel and can provide redundancy standby to the system upgrading and aging.

2.0 PRODUCT FEATURE

- 1540~1563nm operating bandwidth
- Low noise, high output, high reliability
- APC、ACC、ATC controlled selection (HA5100/P)
- Powerful RS232 supervisory instruction
- Three exterior option: 1U (19" stander), 3D (12.4", 3U, Desk-type) and modulator
- 1U and 3D exterior, offering status appearance and diagnosing fault with LCD, standard RS232 communication interface, SNMP network management function
- Application of 3D models to adapt to laboratory
- Excellent P/P ratio in area

3.0 MAIN APPLICATION

- AM CATV
- Digital CATV
- DBS & MMDS
- FTTP
- FTTx PON
- Laboratory application

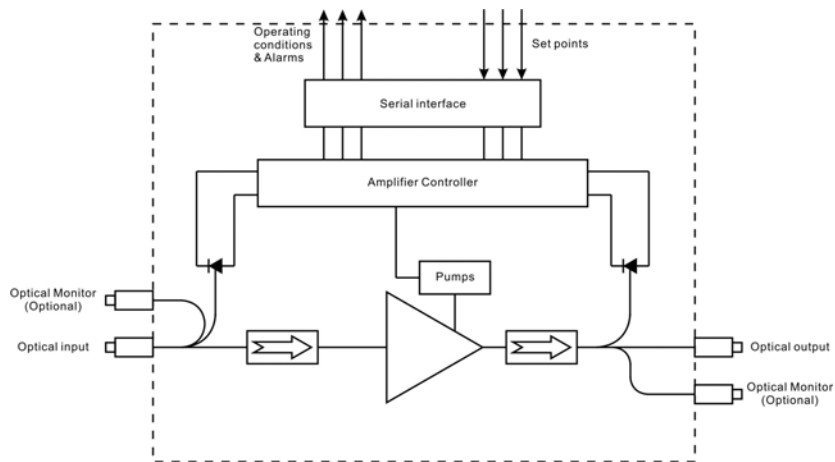
4.0 Technique index

| Performance | | | Index | | | Supplement | |
|-----------------|------------------------|----------------|--------------|------|-----------------------|------------|--------|
| | | | Min. | Typ. | Max. | | |
| Optical feature | Operating wavelength | (nm) | 1540 | | 1563 | CATV | |
| | Input power | (dBm) | -10 | +3 | +10 | | |
| | Maximum output | (dBm) | +10 | | +26 | Pin=0dBm | |
| | Output power | (dBm) | -6 | | 0 | HA5100/P | |
| | Number of output ports | | | 1 | | 8 | SC/APC |
| | | | | 1 | | 16 | LC/APC |
| | Difference of each | (dBm) | -0.5 | | +0.5 | | |
| | Noise figure | (dB) | | | 6.3 | HA5100-26 | |
| | Polarization | (dB) | | | 0.3 | | |
| | Polarization | (dB) | | | 0.4 | | |
| | Polarization mode | (ps) | | | 0.5 | | |
| | Input/output isolation | (dB) | 30 | | | | |
| | Pump power leakage | (dBm) | | | -30 | | |
| Echo loss | (dB) | 55 | | | APC | | |
| General feature | SNMP network | | RJ45 | | | | |
| | Serial interface | | RS232 | | | | |
| | Power supply | (V) | 90 | | 265 | 220VAC | |
| | | | 30 | | 72 | -48VDC | |
| | | | 23 | | 25 | +24VDC | |
| | Power consume | (W) | | | 50 | | |
| | Operating temp. | (°C) | -5 | | 65 | | |
| | Storage temp. | (°C) | -40 | | 80 | | |
| | Operating relative | (%) | 5 | | 95 | | |
| | Size (W)×(D)×(H) | (") | 19×14.5×1.75 | | | 1RU (19") | |
| (") | | 12.4×15.4×5.25 | | | 3D (12.4", desk-type) | | |
| (mm) | | 150×125×22 | | | Modulator | | |

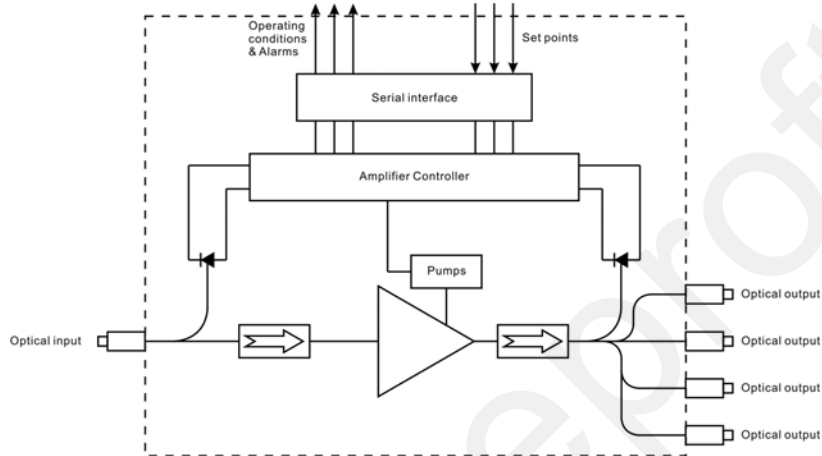
Remark: Output power can be customized by user

5.0 Optical/electrical schema

1. Optical port mode M4 (With input & output monitor port)



2. Optical mode O4 (Four ways optical output)



6.0 PRODUCT SERIES

| Model | Output power Max (dBm) Pin=0dBm | Noise figure (dB) Pin=0dBm | Input power range (dBm) | | | Function |
|-----------|---------------------------------------|----------------------------------|----------------------------|------|------|---|
| | | | Min. | Typ. | Max. | |
| HA5113/ON | ≥13 | 4.0 | -10 | 0 | +10 | With SNMP network management, output power is not adjustable |
| HA5114/ON | ≥14 | 4.1 | | | | |
| HA5115/ON | ≥15 | 4.2 | | | | |
| HA5116/ON | ≥16 | 4.3 | | | | |
| HA5117/ON | ≥17 | 4.5 | | | | |
| HA5118/ON | ≥18 | 4.8 | | | | |
| HA5119/ON | ≥19 | 5.0 | | | | |
| HA5120/ON | ≥20 | 5.3 | | | | |
| HA5121/ON | ≥21 | 5.5 | | | | |
| HA5122/ON | ≥22 | 5.8 | | | | |
| HA5123/ON | ≥23 | 6.0 | | | | |
| HA5124/ON | ≥24 | 6.3 | | | | |
| HA5125/ON | ≥25 | 6.5 | | | | |
| HA5126/ON | ≥26 | 6.8 | | | | |
| HA5120/PN | ≥20 | 5.3 | -10 | 0 | +10 | With SNMP network management, the output optical power adjustable 0~ -6dB |
| HA5121/PN | ≥21 | 5.5 | | | | |
| HA5122/PN | ≥22 | 5.8 | | | | |
| HA5123/PN | ≥23 | 6.0 | | | | |
| HA5124/PN | ≥24 | 6.3 | | | | |
| HA5125/PN | ≥25 | 6.5 | | | | |
| HA5126/PN | ≥26 | 6.8 | | | | |