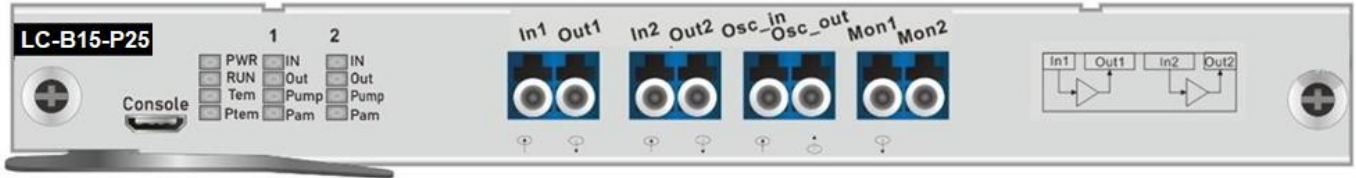


# Dual EDFA Optical Amplifier Board

DWDM.ME's dual EDFA Optical Amplifier board provide multi-function, low noise, Erbium-Doped Fiber Amplifier (EDFA) solutions, The amplifier module can be operated at constant gain (Automatic Gain Control AGC), constant output power (Automatic Power Control, APC). This is a highlyintegrated EDFA, and the large module supports Dual amplifier with two independent gain units .



## Function

- C-band optical signal overall amplification
- Covering the wavelength range of 1528 ~ 1565nm
- Support systems to achieve different cross-section radio repeater transmission

## Highlight

- Wide operating wavelength range:1528nm~1565nm
- Dual amplifier contains two independent gain units
- Low noise figure: typ 5dB
- Excellent gain flatness
- Optional OSC channel for remote management
- Multiple operating modes:
  - AGC adjustable Gain
  - APC output is adjustable
  - ACC voltage adjustable
- MON port, on-line monitoring optical power and OSNR

## Performance Parameter

| Parameter                    | Min.                       | Typical                 | Max.             | Unit |
|------------------------------|----------------------------|-------------------------|------------------|------|
| Operating Wavelength         | 1528                       |                         | 1565             | nm   |
| Output Power                 |                            |                         | 20               | dBm  |
| Gain                         | 8                          |                         | 33               | dB   |
| Input Power                  | BA                         | -10                     | Max.Output -Gain | dBm  |
|                              | PA/LA                      | (Max.input-29)          | Max.Output -Gain |      |
| Noise Figure                 |                            | 5.0                     |                  | dB   |
| Gain Flatness                |                            | 1.0                     |                  | dB   |
| Input threshold              | -34                        |                         | Can be adjusted  | dBm  |
| Polarization Dependence Loss |                            |                         | 0.3              | dB   |
| Polarization Dependence Gain |                            |                         | 0.4              | dB   |
| Polarization Mode Dispersion |                            |                         | 0.5              | ps   |
| Pump Power Leakage           |                            |                         | -29              | dBm  |
| Return Loss                  | 45                         |                         |                  | dB   |
| EDFA Size                    | 191 (W) x 253 (D) x 20 (H) |                         |                  | Mm   |
| Environment                  | Operating Temperature      | -10°C ~ 60°C            |                  | °C   |
|                              | Storage Temperature        | -40°C ~ 80°C            |                  | °C   |
|                              | Relative Humidity          | 5% ~ 95% Non-condensing |                  |      |
| Power Consumption            | ≤15                        |                         |                  | W    |

## Common Module

| Model                | Description   | Gain<br>dB | Max.Output<br>dBm | Min.Input<br>dBm | Max.Input<br>dBm | Typ.NF<br>dB |
|----------------------|---|------------|-------------------|------------------|------------------|--------------|
| <b>Booster</b>       |   |            |                   |                  |                  |              |
| LC-BA16/G12          | Booster, Max.Output 16dBm, Gain 12dB, With OSC  | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA16/G12NS        | Booster, Max.Output 16dBm, Gain 12dB, Without OSC   | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA20/G12          | Booster, Max.Output 20dBm, Gain 12dB, With OSC  | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| LC-BA20/G12NS        | Booster, Max.Output 20dBm, Gain 12dB, Without OSC   | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| <b>Bidi Booster</b>  |   |            |                   |                  |                  |              |
| LC-BA16/G12B         | Bidi Booster, Max.Output 16dBm, Gain 12dB, With OSC, Pass 1528~1543 ( Blue ) , Reflection 1547~1561nm( Red )    | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA16/G12NSB       | BidiBooster, Max.Output 16dBm, Gain 12dB, Without OSC, Pass 1528~1543 ( Blue ) , Reflection 1547~1561nm ( Red ) | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA20/G12B         | BidiBooster, Max.Output 20dBm, Gain 12dB, With OSC, Pass 1528~1543 ( Blue ) , Reflection 1547~1561nm( Red )     | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| LC-BA20/G12NSB       | BidiBooster, Max.Output 20dBm, Gain 12dB, Without OSC, Pass 1528~1543 ( Blue ) , Reflection 1547~1561nm ( Red ) | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| LC-BA16/G12R         | BidiBooster, Max.Output 16dBm, Gain 12dB, With OSC, Pass 1547~1561nm ( Red ) , Reflection 1528~1543 ( Blue )    | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA16/G12NSR       | BidiBooster, Max.Output 16dBm, Gain 12dB, Without OSC, Pass 1547~1561nm ( Red ) , Reflection 1528~1543 ( Blue ) | 12dB       | 16dBm             | -10dBm           | 4dBm             | 5dB          |
| LC-BA20/G12R         | BidiBooster, Max.Output 20dBm, Gain 12dB, With OSC, Pass 1547~1561nm ( Red ) , Reflection 1528~1543 ( Blue )    | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| LC-BA20/G12NSR       | BidiBooster, Max.Output 20dBm, Gain 12dB, Without OSC, Pass 1547~1561nm ( Red ) , Reflection 1528~1543 ( Blue ) | 12dB       | 20dBm             | -10dBm           | 8dBm             | 5dB          |
| <b>Pre-amplifier</b> |   |            |                   |                  |                  |              |
| LC-PA16/G20          | Pre-amplifier, Max.Output 16dBm, Gain 20dB, With OSC  | 20dB       | 16dBm             | -29dBm           | -4dBm            | 4.5dB        |
| LC-PA16/G20NS        | Pre-amplifier, Max.Output 16dBm, Gain 20dB, Without OSC   | 20dB       | 16dBm             | -29dBm           | -4dBm            | 4.5dB        |
| LC-PA16/G20-8        | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 20dB, With OSC, Mid-access loss 8dB                       | 20dB       | 16dBm             | -29dBm           | -4dBm            | 5dB          |
| LC-PA16/G20NS-8      | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 20dB, Without OSC, Mid-access loss 8dB                    | 20dB       | 16dBm             | -29dBm           | -4dBm            | 5dB          |
| LC-PA16/G25          | Pre-amplifier, Max.Output 16dBm, Gain 25dB, With OSC  | 25dB       | 16dBm             | -29dBm           | -9dBm            | 4.5dB        |
| LC-PA16/G25NS        | Pre-amplifier, Max.Output 16dBm, Gain 25dB, Without OSC   | 25dB       | 16dBm             | -29dBm           | -9dBm            | 4.5dB        |
| LC-PA16/G25-8        | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 25dB, With OSC, Mid-access loss 8dB                       | 25dB       | 16dBm             | -29dBm           | -9dBm            | 5dB          |

|                    |  |      |       |        |        |     |
|--------------------|--|------|-------|--------|--------|-----|
| LC-PA16/G30-8      | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 30dB, With OSC, Mid-access loss 8dB    | 30dB | 16dBm | -29dBm | -14dBm | 5dB |
| LC-PA16/G25NS-8    | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 25dB, Without OSC, Mid-access loss 8dB | 25dB | 16dBm | -29dBm | -9dBm  | 5dB |
| LC-PA16/G30NS-8    | Midstage access Pre-amplifier, Max.Output 16dBm, Gain 25dB, Without OSC, Mid-access loss 8dB | 30dB | 16dBm | -29dBm | -14dBm | 5dB |
| <b>In-Line-Amp</b> |  |      |       |        |        |     |
| LC-LA16/G20        | In-Line-Amp, Max.Output 16dBm, Gain 20dB, With OSC   | 20dB | 16dBm | -29dBm | -4dBm  | 5dB |
| LC-LA16/G20NS      | In-Line-Amp, Max.Output 16dBm, Gain 20dB, Without OSC  | 20dB | 16dBm | -29dBm | -4dBm  | 5dB |
| LC-LA16/G20-8      | Midstage access In-Line-Amp, Max.Output 16dBm, Gain 20dB, With OSC, Mid-access loss 8dB      | 20dB | 16dBm | -29dBm | -4dBm  | 6dB |
| LC-LA16/G20NS-8    | Midstage access In-Line-Amp, Max.Output 16dBm, Gain 20dB, Without OSC, Mid-access loss 8dB   | 20dB | 16dBm | -29dBm | -4dBm  | 6dB |
| LC-LA20/G20        | In-Line-Amp, Max.Output 20dBm, Gain 20dB, With OSC   | 20dB | 20dBm | -29dBm | 0dBm   | 5dB |
| LC-LA20/G20NS      | In-Line-Amp, Max.Output 20dBm, Gain 20dB, Without OSC  | 20dB | 20dBm | -29dBm | 0dBm   | 5dB |
| LC-LA20/G20-8      | Midstage access In-Line-Amp, Max.Output 20dBm, Gain 20dB, With OSC, Mid-access loss 8dB      | 20dB | 20dBm | -29dBm | 0dBm   | 6dB |
| LC-LA20/G20NS-8    | Midstage access In-Line-Amp, Max.Output 20dBm, Gain 20dB, Without OSC, Mid-access loss 8dB   | 20dB | 20dBm | -29dBm | 0dBm   | 6dB |
| LC-LA16/G25        | In-Line-Amp, Max.Output 16dBm, Gain 25dB, With OSC   | 25dB | 16dBm | -29dBm | -9dBm  | 5dB |
| LC-LA16/G25NS      | In-Line-Amp, Max.Output 16dBm, Gain 25dB, Without OSC  | 25dB | 16dBm | -29dBm | -9dBm  | 5dB |
| LC-LA16/G25-8      | Midstage access In-Line-Amp, Max.Output 16dBm, Gain 25dB, With OSC, Mid-access loss 8dB      | 25dB | 16dBm | -29dBm | -9dBm  | 6dB |
| LC-LA16/G25NS-8    | Midstage access In-Line-Amp, Max.Output 16dBm, Gain 25dB, Without OSC, Mid-access loss 8dB   | 25dB | 16dBm | -29dBm | -9dBm  | 6dB |
| LC-LA20/G25        | In-Line-Amp, Max.Output 20dBm, Gain 25dB, With OSC   | 25dB | 20dBm | -29dBm | -5dBm  | 5dB |
| LC-LA20/G25NS      | In-Line-Amp, Max.Output 20dBm, Gain 25dB, Without OSC  | 25dB | 20dBm | -29dBm | -5dBm  | 5dB |
| LC-LA20/G25-8      | Midstage access In-Line-Amp, Max.Output 20dBm, Gain 25dB, With OSC, Mid-access loss 8dB      | 25dB | 20dBm | -29dBm | -5dBm  | 6dB |
| LC-LA20/G25NS-8    | Midstage access In-Line-Amp, Max.Output 20dBm, Gain 25dB, Without OSC, Mid-access loss 8dB   | 25dB | 20dBm | -29dBm | -5dBm  | 6dB |



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