

Advance Product Information

QLightTM 2D-AMP

Model DAOS



Description

The QLight[®] 2D-Amp provides a cost-effective amplification solution for bi-directional amplification in FTTx. It can be used to extend the reach of existing and future FTTx networks by boosting the downstream transmit power and pre-amplifying the upstream receive power at an Optical Line Terminal (OLT) or at a splitter site.

The 2D-Amp is available in a 14-pin butterfly package, based on Alphion standard packaging platform. The use of a laser-welded, hermetic, organics-free package ensures highly reliable operation. The package incorporates both a thermistor and thermo-electric cooler to provide stable operation of the amplifier over the full operating temperature range.

The first 2D-Amp model, DAOS (1310nm and 1490nm), is designed for use primarily in EPON, GPON, and GEPON systems. Development samples of the DAOS model are currently available. Production units will be available in 1Q07.



Model DAOS TARGET SPECIFICATIONS

Absolute Maximum Ratings*

| Parameter | Min | Тур | Max | Units | Note |
|-------------------------|-----|-----|-----|-------|------|
| Operating Temperature | 0 | | 70 | V | |
| Storage Temperature | -40 | | 85 | kΩ | |
| Upstream Bias Current | | | 450 | mA | |
| Downstream Bias Current | | | 300 | mA | |
| Reverse Bias | | | 2 | V | |
| Thermistor Current | | | 5 | mA | |
| TEC Current | | | 1.8 | А | |
| TEC Voltage | | | 3.4 | V | |

* Stresses in excess of the Absolute Maximum Ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational section of the datasheet. Exposure to Absolute Maximum Ratings for extended periods can adversely affect the device reliability.

Operating Specifications*

| Parameter | Min | Тур | Max | Units | Note | | | | | |
|---------------------------|------|------|------|-------|----------------------|--|--|--|--|--|
| Forward Voltage | | 2 | | V | | | | | | |
| Thermistor Resistance | | 10 | | kΩ | | | | | | |
| Upstream Specifications | | | | | | | | | | |
| Operating Wavelength | 1270 | 1300 | 1340 | nm | | | | | | |
| Peak Gain | | 20 | | dB | | | | | | |
| Gain Flatness | | 3 | | dB | | | | | | |
| ASE Ripple | | 0.5 | | dB | | | | | | |
| Noise Figure | | 7 | | dB | | | | | | |
| PDG | | 1 | | dB | | | | | | |
| Saturation Output Power | | 13 | | dBm | 3dB Gain Compression | | | | | |
| Operating Bias Current | | 300 | | mA | | | | | | |
| Downstream Specifications | | | | | | | | | | |
| Operating Wavelength | 1460 | 1490 | 1530 | nm | | | | | | |
| Peak Gain | | 14 | | dB | | | | | | |
| Gain Flatness | | 3 | | dB | | | | | | |
| Gain Ripple | | 0.5 | | dB | | | | | | |
| Noise Figure | | 6 | | dB | | | | | | |
| PDG | | 1 | | dB | | | | | | |
| Saturation Output Power | | 14 | | dBm | 3dB Gain Compression | | | | | |
| Operating Bias Current | | 180 | | mA | | | | | | |

*Preliminary specifications, subject to change without notice