



QD Laser Inc. Unveils Quantum Dot Lasers Featuring Temperature Insensitivity Operational from - 40 to 100 °C for Optical Telecom Applications

- Enable optical telecom modules to realize small form factors, lower power consumptions at 1310nm Wavelength / 1.25 to 10Gbps speed in various extreme environments

Tokyo, Japan, February 25, 2008 --- QD Laser Inc. today announced it has developed a temperature insensitive quantum dot (*1) FP laser (*2) and just started shipment of engineering samples. By employing original quantum dot laser technologies, QD Laser Inc. succeeded in becoming the world's first to develop and commercialize temperature insensitive QD-FP lasers by 1310nm TO-CAN package and bare chip (Fig1) for practical applications such as FTTH, optical LAN and fiber channels in the optical fiber telecommunication industry.

Nowadays the telecom industry requires lower power consumption for an "Eco" mindset, as well as realizing small form factor of products with the trend of transmission speed getting higher year by year, which consumes more and more electrical power. In this circumstance, optical module and system vendors are having difficulties to control temperature in the condition of smaller form factor and higher data rate.

The results we obtained from this brand new quantum dot technology confirm that it will contribute to optical telecommunication systems as well as optical sub-assembly modules to achieve lower power consumption, smaller form factor and wider operational temperature especially high up to 100°C. Also, QD-FP lasers may enable the simplification or removal of the APC (*3) function by saving material and assemble cost due to its temperature insensitive characteristic (Fig2).

We are planning to release commercial products at the end of 2008. And also QD-DFB lasers (*4) which enable longer-distance transmission have also been under development, and TO-CAN packaged and bare chip engineering samples will be shipped by the end of 2008.

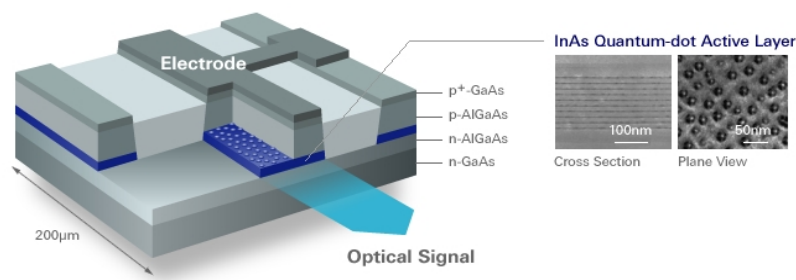


Fig 1: Structure of quantum dot FP laser

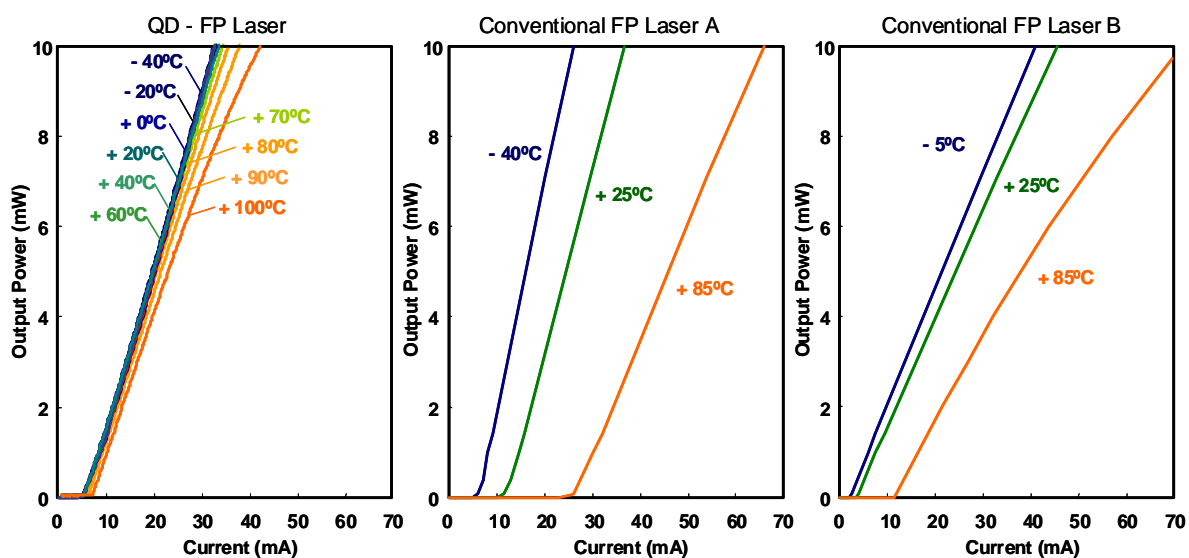


Fig 2: LI comparison of QD-FP laser vs. conventional lasers

Availability

Engineering samples of 1.25 to 10G are available now and commercial products will be released at the end of this year.

QD Laser Inc. introduced this product today at the Optical Fiber Communication Conference and Exposition (OFC 2008) in San Diego, California.

Glossary

- *1 :Quantum Dot

Semiconductor particles that are a few to several tens of nanometers in size (a nanometer is one billionth of a meter).

- *2 :FP (Fabry-Perot) laser

Fabry-Perot Diode Lasers are the most common type of diode lasers. Laser oscillation is demonstrated in multiple modes as the light in the active layer is amplified when it goes back and forth in the resonator.

- *3 :APC (Automatic Power Control)

Feature in laser drivers that use feedback from the laser to adjust the drive, to keep the laser's output constant.

- *4 :DFB (Distributed feedback) laser

The whole cavity contains active layers and thus creates a periodic structure which acts as a distributed reflector in the wavelength range of laser operation. Therefore, single-frequency operation is easily achieved.

About QD Laser Inc.

Founded in April 2006 with capital funded by Fujitsu Limited & Mitsui Ventures, with headquarters located in Tokyo, Japan. QD Laser Inc. is a technology leader in the field of quantum dot based semiconductor optical devices, based on more than ten years of research on semiconductor quantum dot technologies in collaboration between Fujitsu Laboratories Ltd. and the University of Tokyo in Japan. For more information: www.qdlaser.com/english/index.html

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