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MITSUBISHI ELECTRIC BEGINS SHIPMENT OF NEW 2.5 Gbps SEMICONDUCTOR LASER DIODE FOR 100 km DISTANCES

Tokyo, August 23, 2005 – Mitsubishi Electric Corporation (President and CEO: Tamotsu Nomakuchi) announced today that it will begin sample shipment of its 2.5 Gbps · 100 km ML9xx43 series semiconductor laser diode for use in optical communication beginning September 1, 2005. The diode is capable of operating at a range of temperatures between –20C-+95C, the widest range in the industry.

Summary

Product Name	Specification	Price of sample (w/o tax)	Date of sample shipment	Planned quantity of production
ML9xx43 series	-DFB-LD ¹ -2.5 Gbps up to 100km -can operate at temperatures ranging from –20C-+95C	4,000 yen	September 1, 2005	10,000 (starting Jan. 2006)

¹Distributed Feedback Laser Diode

Aim of Sale

With the dissemination of ADSL, Fiber To The Home (FTTH), and other high-speed, high-volume communication services for the home, there has been a rush to expand the communications network in metropolitan areas² to keep up with sudden increases in communication traffic. Demand has been created for

a compact, high-density mounted, low-energy consuming optical communication device for use in metropolitan areas as well as semiconductor laser diodes capable of high speed data transmission at high temperatures without the need for a temperature controller. In 2003, Mitsubishi Electric responded to this demand by producing the ML9xx40 series, a 2.5 Gbps/100km semiconductor laser diode capable of operating between 0C-+85C.

With the development of the ML9xx43 series, a temperature controller is no longer necessary for almost all mounting configurations because of its ability to function in temperature ranges of -20C-+95C, the widest range in the industry, while also contributing to the miniaturization and energy efficiency in optical communication devices.

²Metropolitan Area is defined as the 80 km area between trunk lines with a relay distance of over 100km and subscriber lines with relay distances of under 20 km

Features of new products

1) **Industry's widest operating temperature range (-20C-+95C) contributes to miniaturization and high density mounting of optical communication devices**

Previous 2.5 Gbps/100km semiconductor laser diodes were limited to operating temperature ranges of 0C-+85C³ because of a tradeoff between data transmission and optical output at high temperatures. With this semiconductor laser, we have increased the light conversion efficiency by optimizing the active layer in the area where light is emitted, and can now make reliable data transmission in temperatures from -20C-+95C without temperature control. This means the optical transmitter/receiver will no longer need a temperature controller, thus contributing to miniaturization, high-density mounting, and cost reduction.

³referring to Mitsubishi Electric's ML9xx40 series

2) **Improvements in slope efficiency⁴ contribute to reduced power consumption by the optical transceiver**

To achieve the optical output necessary for data transmission at over 95C, it was necessary to improve the slope efficiency (a figure showing the efficiency of attained optical output). By optimizing the element construction it was possible to improve the slope efficiency by approximately 30% compared to previous models to 0.28W/A, thus reducing power consumption by the optical transceiver.

⁴slope efficiency of ML9xx40 series is 0.22 W/A

Parameter	Typical Value ⁵	Condition
Threshold current	35 mA	Tc=95C
Operation current	70 mA	Po=5mW, Tc=95C
Slope efficiency	0.28 W/A	Po=5mW, Tc=25C
Oscillation wavelength	1550 nm	Po=5mW, Tc=25C
Side mode suppression ratio	11 GHz	Tc=25C, Ib=Ith, Ipp=30mA

Power penalty	1 dB ⁶	2.48832 Gbps, SMF 100km, Tc=-20C-95
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⁵The above characteristics are typical values and cannot be guaranteed.

⁶Power penalty amounts depend on the laser's operating condition, peripheral circuits and receiver. They may differ from the above amounts, and verification is necessary as to whether they are the power penalty values needed by the customer or not.

About Mitsubishi Electric

With over 80 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation (TSE:6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. The company recorded consolidated group sales of 3,410 billion yen (US\$ 31.9billion*) in the fiscal year ended March 31, 2005. For more information visit <http://global.mitsubishielectric.com>

*At an exchange rate of 107 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2005.