

## **Leading Optical Chip and Module Manufacturers Target 10 Gbit/s Solution with a Miniature Device (XMD) MSA for XFP TOSA and ROSA**

Fujitsu Quantum Devices, Ltd., Mitsubishi Electric Corp., Oki Electric Industry Co., Ltd., Opnext, Inc. and Sumitomo Electric Industries, Ltd., today announced at the Optical Fiber Communication Conference 2004 (OFC 2004) the formation of a Multi-Source Agreement (MSA) to establish compatible sources of 10Gbit/s Transmitter Optical Sub-Assembly (TOSA) and Receiver Optical Sub-Assembly (ROSA) for use in the 10 Gbit/s XFP MSA defined module. This initiative standardizes the common mechanical dimensions, footprint and pin functions of the TOSA/ROSA devices; key compact optical components used in XFP modules.

"This agreement will help support the emergence of the 10 Gbit/s compact module market, providing advanced solutions to high capacity network and storage systems," said the MSA Committee. "In the long term, all members will consolidate their current models into MSA compliant products in order to achieve lower costs and consistent customer delivery."

In order to construct the broadband internetworking infrastructure, 10 Gbit/s optical transmission interfaces are widely deployed in Metropolitan Area Network (MAN), Local Area Network (LAN) and Storage systems. There have been many efforts to establish industrial standards in optical modules resulting in the formation of several multi-source agreements (MSA) such as 300-pin MSA ([www.300pinmsa.org](http://www.300pinmsa.org)), XENPAK ([www.xenpak.org](http://www.xenpak.org)), X2 ([www.x2msa.org](http://www.x2msa.org)) and XFP ([www.xfpmsa.org](http://www.xfpmsa.org)). XFP is the most advanced MSA providing compact 10 Gbit/s modules while achieving lower power consumption at a significantly lower cost. To fulfill the requirements, the five chip and module manufactures formed a MSA for TOSA/ROSA devices to develop devices with the capability to reduce the cost and power consumption within XFP modules.

The new MSA defines the direct-modulation Distributed-Feed-back (DFB)/ Fabry-Perot (FP) laser TOSA and the PIN Photodiode - Trans-impedance amplifier (PIN-TIA) ROSA complying with 10 Gbit/s interface standard of OC-192, 10GbE and 10G FC. The MSA targets 1310nm transmission modules for up to 20km applications and 1550nm transmission modules beyond 40km applications.

This MSA intends to establish the compatible TOSA/ROSA as defined below:

- (1) Common mechanical dimensions including the LC-receptacle parts and mechanically mounting method to XFP modules
- (2) Common interface with common XFP PCB design
- (3) Common pin assignment and functions
- (4) Common electrical and optical characteristics

The MSA is now finalizing the TOSA/ROSA specifications and working samples will be available soon in 2004.

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## About MSA members

### **About Fujitsu Quantum Devices, Ltd.**

FQD is a world leader in the semiconductor field, the foundation of the 21st century's Internet society. Compared to conventional silicon semiconductors, compound semiconductors have a higher electron transfer rate and superior sensitivity and efficiency. FQD carries out every step involved in the development, manufacture and sale of optical semiconductors, microwave semiconductors, gallium arsenide integrated circuits (GaAs IC) compound semiconductor devices-all based on state-of-the-art technology. FQD has a sales subsidiary in each of its bases in North America, the United Kingdom and Hong Kong and is also developing a manufacturing subsidiary in Singapore to expand its business on a global scale. FQD's design and manufacturing processes have been certified as compliant with the ISO9001 and ISO14001 international quality standards. Further information is available at <http://www.fqd.fujitsu.com>.

### **About Mitsubishi Electric Corp.**

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 has operations in 35 countries and recorded consolidated group sales of 3,639 billion yen (US\$30.3 billion\*) in the year ended March 31, 2003. For more information visit <http://global.mitsubishielectric.com>

\*At an exchange rate of 120 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2003.

**About Oki Electric Industry Co., Ltd.**

Founded more than a century ago in 1881, Oki Electric Industry Co., Ltd. is Japan's first telecommunications manufacturer, with its headquarter in Tokyo, Japan. With the corporate vision, "Oki, Network Solutions for a Global Society," Oki Electric provides top-quality products, technologies and solutions to its customers through its telecommunications systems, information systems and electronic devices segments. All three segments are integrated into one effective organization that functions as a collective force to create exciting new products and technologies, including information and telecom converged solutions. Through its business activities, Oki Electric satisfies a spectrum of customer needs in various markets. Visit Oki's global web site at <http://www.oki.com/>. @

**About Opnext, Inc.**

Opnext, Inc., is a global leader in high-performance optical components, including high power lasers, laser diode and EA-DFB modules, optical transmitters receivers and transceivers, SFP's, 300-pin MSA transponders (SerDes transceivers), XENPAK, X2 and XFP modules. Formed out of Hitachi, Opnext brings over 30 years experience to the design, development and manufacture of high-performance components and subsystems that power today's access communications, backbone, metro, information and industrial markets. Opnext provides world-class customer service, and has been recognized with service awards from Cisco and CIENA. For additional information, see the Opnext web site at [www.opnext.com](http://www.opnext.com).

**About Sumitomo Electric Industries, Ltd.**

Sumitomo Electric Industries, Ltd. (TSE: 5802) designs, manufactures and sells optical fiber, cable and components, advanced electronic devices, and automotive parts. Through a successful strategy of research and diversification, SEI has become one of the world's leading companies at the forefront of the revolution in information and communications. The company has operations around the world in more than 25 countries and employs 80,000 people. SEI reported group net sales of 1,489 billion yen for the year ended March 2003. [www.sei.co.jp](http://www.sei.co.jp)

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