

Press Release

Lightip launches TO-CAN based tunable laser TOSA at OFC2015

Los Angeles, California, March 24, 2015 – Lightip Technologies today announced that it has developed TO-CAN based tunable laser using its proprietary V-cavity laser chip. The compact and low-cost tunable laser is especially suited for NGPON2 and WDM-PON.

Widely wavelength tunable semiconductor lasers are key components for optical networks. They can be used for colorless ONUs, dynamic wavelength provisioning, DWDM sparing, wavelength routing, and coherent communications. Conventional monolithically integrated tunable semiconductor lasers require complex fabrication processes such as non-uniform gratings and multiple epitaxial growths, and need multiple electrodes with complex control algorithms for wavelength tuning. As the dense wavelength division multiplexing (DWDM) technology extends towards access and data center networks, the cost reduction has become the most important issue.

Lightip has developed a simple and compact tunable laser based on its patented half-wave-coupled V-cavity structure. It has only three electrodes: one for gain and direct modulation, one for channel selection corresponding to the ITU grid, and the third for fine tuning when needed. The laser structure does not involve any grating or epitaxial regrowth, and has a size of only about 500 μm ×300 μm . The advantages of compactness, fabrication simplicity and easy wavelength control offer cost-effective tunable laser solutions for many applications in access and data center networks.

The TLCX155 series Transmitter Optical Sub-Assembly (TOSA) is based on an 8-pin TO-CAN package that offers further cost reduction compared to our previously released TLDX155 series tunable XMD TOSA. It comprises a V-cavity edge-emitting tunable laser chip, a power monitoring photodiode, an isolator, and a TEC controller. Currently it can provide up to 16 channels at 100GHz spacing or 32 channels at 50GHz spacing in C- or L- band with a customer specified starting wavelength. The O-band version will be available soon. The laser chip can be operated in semi-cooled condition at 40-50°C while the ambient operating temperature is between 0 and 70°C.

“Since the introduction of our TLDX155 series tunable XMD TOSA last year, we received great interests from many customers, including several tier-1 equipment manufacturers. According to their feedbacks, TO-CAN based tunable TOSA/BOSAs are essential for mass deployment of tunable technology in access networks such as NGPON2 and WDM-PON, in order to meet their stringent cost requirements. With the help of some of our customers, we developed the TO-CAN package which is very suitable for our simple and compact V-cavity tunable laser chip”, said Dr. Jian-Jun He, Founder and CTO of Lightip. “We hope that the availability of our TO-CAN based tunable laser can help expedite the deployment of TWDM or WDM based next generation PONs, with higher and higher wavelength counts.”

“After receiving the first VC funding recently, we are establishing manufacturing facilities for tunable transmitter products in Hangzhou, China, in addition to outsourced chip and module manufacturing. We are ready to accept volume orders.” said Zhong L. Hou, CEO of Lightip.

Lightip is exhibiting at OFC in booth #2153 at the Los Angeles Convention Center, March 24-26, 2015.

About Lightip Technologies

Lightip Technologies provides high-performance, low-cost and ultra-compact tunable semiconductor lasers and photonic integrated devices for data center, FTTH access, metro networks, and optical interconnects, as well as for biomedical and environmental applications. Lightip Technologies is incorporated in Ontario, Canada, and Hangzhou, China.