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HiLight Semiconductor to demonstrate innovative *Leaded* 10G-PON BOSA-on-Board ONU reference design alongside 25G CMOS TIAs at CIOE 2019

HiLight Semiconductor will be at CIOE 2019 in Shenzhen to showcase multiple CMOS optical PMD product lines for Datacom and Access networks. The following products and reference designs will be demonstrated live to customers that arrange a meeting during the CIOE show:

- **HLC10P0:** A 10G-PON Symmetric **Leaded** BOSA-on-Board reference design comprising the CMOS HLC10P0 symmetric PON 'Combo' IC interfaced with a BOSA using HiLight's HLR10G1 APD TIA. The reference design includes an innovative BOSA attachment method that reduces cost, improves performance and can reduce WiFi susceptibility and that doesn't require a typical flex PCB. HiLight's patented Dual Loop Extinction Ratio control adds to the capability of this lowest-cost solution.
- **HLR25G0 and HLR25G1:** 25G CMOS Transimpedance Amplifiers for SFP28 LR/LR lite and APD applications. The HLR25G0 is designed for PIN photodiode applications whilst the HLR25G1 is for APD applications. HiLight will be showing live demonstrations of the CMOS TIA in **5-pin TO-can** LR and APD ER ROSA.
- **HLC12L0:** A complete CMOS 12G SFP+ LR '5 in 1' reference design solution, using the HLC12L0 'Combo' IC, for FP/DFB Datacom & Wireless transceiver applications offering significant BOM cost savings including the integration of an 8051 microcontroller and non-volatile memory. Furthermore, the HLC12L0 features an **integrated PWM controller** for APD based ER SFP+ (DFB) applications.

The HLC10P0 PON ONU 'Combo' IC is designed in pure CMOS and has highly integrated '5-in-1' functionality: limiting amplifier receiver; burst-mode transmitter; patented laser dual-loop

power and extinction ratio control; PWM APD bias controller and an 8051 microcontroller with embedded firmware providing digital diagnostic monitoring. With a laser bias capability of 115mA it is suitable for DML based NG-PON2 designs as well as 10G-EPON and XGS-PON.

The HLC25G0 transimpedance amplifier is designed in pure CMOS and with dimensions of only 0.7mm x 1.05mm is ideally suited to low cost 5-pin TO-can applications. Sensitivities of better than -17 dBm (0.75 A/W, 4.5dB ER, BER 5E-5, $C_{PD} = 70$ fF) can be achieved.

In addition to the HLR25G0 for PIN photodiodes, the HLR25G1 transimpedance amplifier for 25G APD applications is now in mass-production. Interested customers should contact their local sales representative for further information.

The HLC12L0 LR Datacom 'Combo' IC is designed in pure CMOS and has highly integrated 5-in-1 functionality: 10G limiting amplifier receiver; 10G DML Laser transmitter; PWM APD bias controller; an 8051 microcontroller and on-chip non-volatile memory with embedded firmware providing digital diagnostic monitoring. With a laser bias capability of 115mA it is suitable for most DML based SFP+ LR applications. HiLight are demonstrating the HLC12L0 in an SFP+ reference design with high sensitivity ROSA utilising HiLight's CMOS TIAs.

Christian Rookes, VP Marketing at HiLight, commented "HiLight are demonstrating cost effective PMD solutions for PON, Datacom and Wireless applications at CIOE this year for 10G and 25G high volume nodes. I'm especially excited that we're able to demonstrate our innovative 10G-PON Leaded BOSA-on-Board reference design alongside low cost 5-pin TO-can ROSA reference designs enabled by HiLight's 25G CMOS TIA family."

Jess Brown, VP Sales, commented "We are excited to be offering customers World-Leading CMOS solutions at 25Gbps for the first time. A complete family of 25 and 100G solutions will soon be released and we welcome the opportunity to discuss these State-of-the-Art products with customers in confidential face-face meetings."

About HiLight Semiconductor Limited:

HiLight Semiconductor Ltd. is a Venture Capital backed, Fabless chip company, founded in 2012 by veterans of several previous start-ups. Specialising in deep sub-micron CMOS, the company designs and supplies the world's highest performance PMD and PHY ICs for high speed fiber-optics based communications and networking/Datacentre applications.

At the time of writing the company has already sold over 75 Million ICs into the fiber based PON, Datacentre and Networking markets.

HiLight is headquartered in Southampton, UK, with design offices in Bristol UK and sales and local technical support offices in China (Shenzhen, Wuhan), Taiwan and Japan.