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HiLight Semiconductor to demonstrate pure CMOS 25Gbps Transimpedance Amplifier (TIA) for SFP28 SR, LR and APD applications at OFC 2019

HiLight Semiconductor will be at OFC 2019 in San Diego to showcase multiple new CMOS optical PMD product lines for volume applications up to 100G. The following products and reference designs will be demonstrated live to customers that arrange a meeting during the OFC show:

- **HLR25G0:** A 25G CMOS Transimpedance Amplifier for SFP28 and QSFP28 applications. The HLR25G0 is designed for PIN photodiode applications and HiLight will be showing live demonstrations of the TIA in an SR COB application and an LR ROSA application
- **HLC12L0:** A complete CMOS 10G SFP+ LR reference design solution, for Datacom and Wireless transceiver applications up to 10km
- **HLC12V0:** A complete CMOS 10G SFP+ COB SR reference design solution, for Datacom transceiver and AOC applications offering significant BOM cost savings and a typical total operating power of 600 mW

The HLC25G0 transimpedance amplifier is designed in pure CMOS and with dimensions of only 0.7mm x 1.05mm is ideally suited to TO-Can applications, especially the compact TO33 often found in 25G and 100G optics. The IC features selectable transimpedance gain, adjustable bandwidth and a wide photodiode input capacitance range which enables the HLR25G0 to work with multiple photodiode types across a range of applications. Sensitivities of better than -18 dBm (0.9 A/W, 10dB ER, BER 1E-12, $C_{PD} = 70$ fF) can be expected. In addition to the HLR25G0 for PIN photodiodes, HiLight will soon be sampling the HLR25G1 transimpedance amplifier for 25G APD applications. 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.

The HLC12V0 SR Datacom 'Combo' IC highly integrated 4-in-1 functionality features are: 10G limiting amplifier receiver; 10G VCSEL transmitter; integrated 8051 microcontroller and non-volatile memory with embedded firmware providing digital diagnostic monitoring. This is the first time all of these functions have been combined together in a single CMOS transceiver IC for SFP+ SR and AOC applications. HiLight will be demonstrating an SFP+ SR reference design based around moulded optical receptacles and chip-on-board technology for the most cost effective 10G transceiver and AOC solution.

Christian Rookes, VP Marketing at HiLight, commented "Having recently been granted a US patent for our Dual-Loop Extinction Ratio transmitter control for 10G-PON, HiLight are again bringing innovation to optical communications with the introduction of a new family of high sensitivity, pure CMOS, transimpedance amplifiers that have unprecedented levels of digital control and programmability, which can be used for on-chip compensation such as temperature and photodiode variation amongst other things."

Jess Brown, VP Sales, commented "We are excited to be offering our customers the opportunity to cost-down their products with highly integrated solutions that offer class leading performance in a pure CMOS process."

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 70 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.