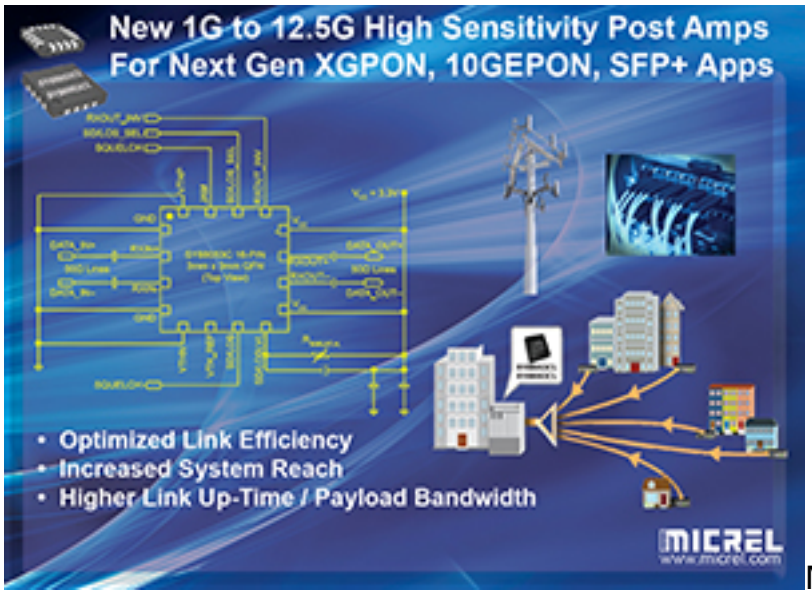
High-sensitivity limiting post amplifiers target 10Gbps FTTH PON, Ethernet, wireless and OTN apps



Micrel, Inc. launched the SY88053CL and SY88063CL limiting post amplifiers. The devices are suitable for FTTH XGPON and 10GEPON OLT (Optical Line Terminal) applications supporting the build out of next generation PON networks. This product family is also suitable for use in fiber optic transceiver modules for multi-rate applications up to 12.5Gbps supporting Ethernet, Fibre Channel, OTN, and CPRI/OBSAI data rates. Both devices incorporate fast SD Assert and LOS De-Assert times across the entire differential input voltage range of 5mVPP to 1800mVPP which enables improved link efficiency and optimization. Electrical hysteresis of 4 dB is provided across a wide LOS/SD threshold range of 3 mVPP to 30 mVPP. Integrated 50-Ohm input and output impedances optimize high speed signal integrity while reducing external component counts and in turn, cost. The TTL compatible JAM input enables a SQUELCH function by routing back the LOS or SD signal.

The SY88053CL enables user adjustable decision threshold adjustment for optimized Bit Error Rate operation in noisy applications with asymmetrical noise distribution while the SY88063CL provides a user selectable Digital Offset Correction function that automatically compensates for internal device offsets in the high speed data path. Other features include multi-rate operation of 1Gbps to 12.5Gbps; selectable LOS or SD output; selectable RXOUT+ / RXOUT- signal polarity (SY88053CL); and 25ps typical rise/fall times. Improved module manufacturability and reduced cost are achieved via the increased performance margin versus current customer requirements. The enhanced link efficiency and higher data throughput are the result of higher downstream splits per node and the additional margin to the 512ns link setup budget. Extended reach and higher data throughput are achieved via optimized BER in noisy environments and compensation for asymmetrical noise profiles of EDFA or RAMAN optical amplifiers.

Micrel, Inc., www.micrel.com [1]

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Links:
[1] http://www.micrel.com