Features:

- IEEE 802.3ah compliant
- 1.25Gbps operation
- Jitter performance exceeds standard specification
- 1.2V power supply, CMOS design
- Low power dissipation
- Programmable voltage output swing at high-speed serial output
- Integrated termination resistors in transmitter and receiver.
- Programmable Tx pre-emphasis and Rx post-equalization
- Local and remote serial loop-back capability
- Modular design to facilitate customization and process migration
- TSMC 0.13um process technology

General Description:

The MXL-SRDS-EPON is an Ethernet Passive Optical Network (EPON) transceiver implemented in digital CMOS technology. The SerDes IP offers data transfer rate of 1.25Gbps, for both upstream & downstream direction, meeting IEEE 802.3ah EPON standard specification.

The receiver side implements programmable post-equalization, with on chip terminations, clock/data recovery PLL and De-Serializer. The Serializer section uses the recovered clock to serialize the parallel data to be transmitted. The transmitter then drives the serial data on the serial differential outputs, while incorporating the pre-emphasis signal.

The MXL-SRDS-EPON is capable of generating low-jitter outputs in the noisy environment, typical of million-gate SOC.

Block Diagram

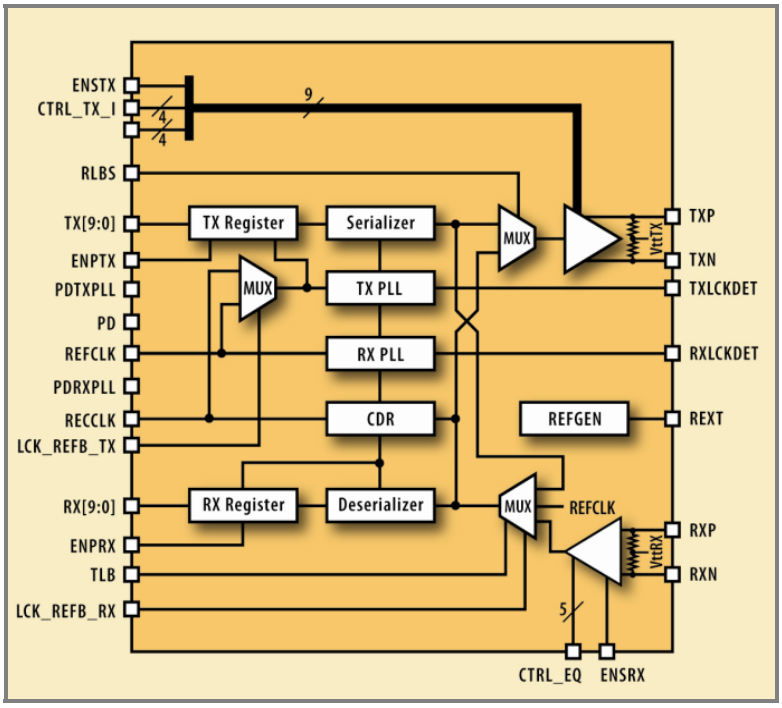

Figure 1: SerDes Block diagram

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