

Features:

- 1.0 to 4.25 Gbps operation per channel
- 1.2V power supply, CMOS design
- Low power dissipation
- Minimal external components
- Programmable voltage output swing at high-speed serial output
- Programmable 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
- Can be easily integrated into multiple Quads

General Description:

The MXL-4254A is a Quad Gigabit SerDes implemented in digital CMOS technology. Each of the four channels supports data rate up to 4.25 Gbps. It is compatible with router-backplane links, PCI Express, SATA, RapidIO, 10 Gbps Ethernet (XAUI), FibreChannel, SFI-5, SPI-5, Infiniband, and other communication applications. The frequency synthesizing PLL is fully integrated including the loop filter, and has a programmable multiplication factor (4, 5, 8, 10, 16, and 20). Each transmitter accepts an 8 or 10-bit parallel data, serializes it, and outputs the serial data differentially. Each receiver accepts serial differential data at up to 4.25 Gbps, recovers the clock and data, de-serializes the data, and make the data available at the parallel bus.

Block Diagram

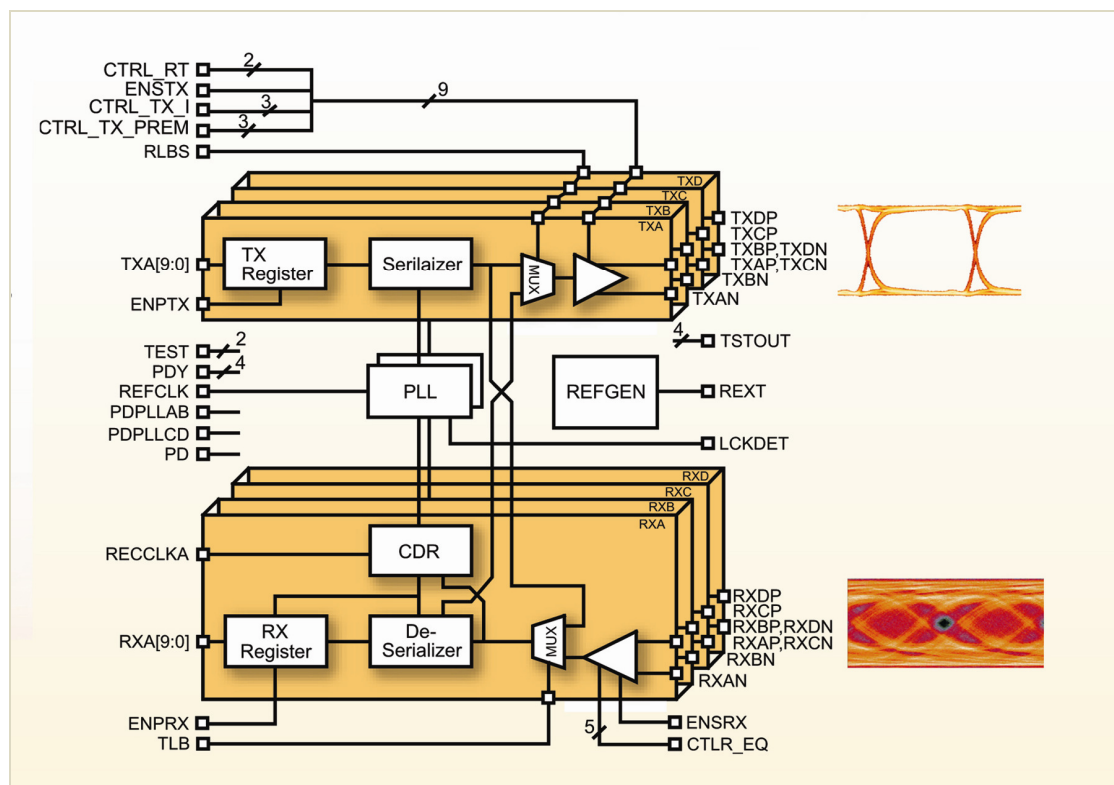


Figure 1: SerDes Block diagram