



Gigabit Ethernet Serializer/Deserializer (SERDES)

GENERAL DESCRIPTION

CS6590 is a single chip serializer and deserializer compliant to IEEE 802.3 PMA function for Gigabit Ethernet applications. It accepts X3T11 compatible 10-bit interface. The serializer receives 8B/10B encoded transmit symbol and pass it to parallel to serial converter. The serial data stream at 1.25Gbps are then passed to the transmit output buffer which drives TX± PECL differential outputs. The deserializer accepts differential PECL input RX± as the input stream. The input serial stream is passed to a clock recovery module.

The data stream is then retimed by the recovered serial clock. The rechronized data is passed to the serial to parallel converter and the COMMA detect logic for frame alignment. A reference clock input of 125MHz is used to generate all internal timing using on-chip frequency synthesizer.

FEATURES

- IEEE 802.3z compliant PMA function for Gigabit Ethernet
- X3T11 10-bit interface
- Differential PECL interface to PMD
- On-chip frequency synthesizer using 125MHz reference clock input
- On-chip clock recovery
- CMOS low power design
- Internal loopback
- Single 3.3V supply
- Available in 64-pin LQFP package

BLOCK DIAGRAM

