

SpeedBlazer™ L80710 10 Gigabit and L84700 Quad Serializer/Deserializer



OVERVIEW

The SpeedBlazer™ L80710 and L84700 consist of four separate full duplex serializers/deserializers (SerDes). Based on LSI Logic's GigaBlaze® technology, each channel of the device is designed to transmit and receive serial data at up to 3.125 Gbps through each channel. These High Speed Gigabit transceivers provide parallel-to-serial and serial-to-parallel conversion, clock recovery, and byte alignment. In addition, when the devices are in XGXS mode, they perform 8B/10B encoding and decoding, resynchronization with the local clock, and lane alignment, per the intent of the 10 Gigabit IEEE standard.

Except for their serial transfer rates, the L80710 and L84700 are identical. The L80710 with its 3.125 Gbps/channel is designed for applications supporting the 10 Gigabit Ethernet (XGXS) standard, while the L84700 operates at 1.0625 to 2.5 Gbps/channel and ideal for high speed backplane applications.

The SpeedBlazer devices are based on four generations of LSI Logic's industry leading and market proven GigaBlaze® integrated transceiver core technology. The L80710 and L84700 are fabricated using LSI Logic's 0.25-micron process technology operating at 2.5V and is available in 320-pin EPBGA packages.

The system flexible SpeedBlazer standard product solutions enable system designers to rapidly develop high performance and cost-effective backplanes, Ethernet or Fibre Channel products for fast time-to-market. LSI Logic also offers a migration path to integrate the SpeedBlazer SerDes functionality into a highly integrated full function System on a Chip (SoC) ASIC. This benefit provides the best cost-effective solution for rapid high volume production ramp.

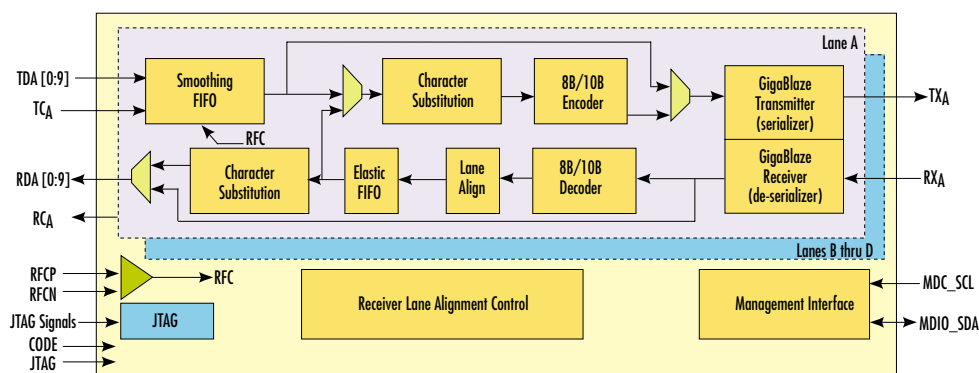


Figure 1. SpeedBlazer™ L80710 and L84700 Transceivers

FEATURES

L80710 - 10Gb Ethernet XAUI to XGMII Physical Layer

L84700 - High Speed Quad SerDes with enhanced modes

- Four complete serializers/deserializers (SerDes) based on proven GigaBlaze Core Technology
- Full Duplex operation
- Serial data rates: 3.125, 2.5, 2.125, 1.25, and 1.0625 Gbps
- 620mW typical per channel @ 2.5 Gbps
- Selectable 50 ohm or 75 ohm integrated termination resistors
- Adjustable Driver Emphasis
- Selectable Operating Modes for 10 Gb Ethernet (XGXS Layer), SerDes and Retimer Modes
- Lane-to-lane deskew
- Re-sync received bit stream to local clock
- 8B/10B encoder/decoder
- XGMII SSTL-2 Parallel Interface
- 4 lanes operate independently with separate CDR
- Address both 10G and backplane with one device
- 320-pin EPBGA package, 23 mm body size
- Built-in self test (BIST)
- 2.5 V Power Supply
- JTAG Test Interface
- MDC/MDIO and Serial Management Link (SML) interfaces

BENEFITS

- Decrease time-to-market
- Minimize space, power, cost
- Rapid high volume production ramp solution
- Migration path to ASIC integration



The
Communications
Company™

SpeedBlazer™ L80710 and L84700

APPLICATIONS

- 10 Gigabit Ethernet
- 3.125 Gbps/Lane
- Gigabit Ethernet
- Backplane connectivity
- Signal conditioning
- High speed proprietary applications

ABOUT LSI LOGIC'S TRANSCEIVER TECHNOLOGY

- Leading-edge CMOS technologies
- Transceiver ICs and integrated transceiver cores
- Four generations of integrated transceiver experience
- Market leader in transceiver cores
- Mature, 4th generation market proven transceiver technology
- Low power transceiver solution

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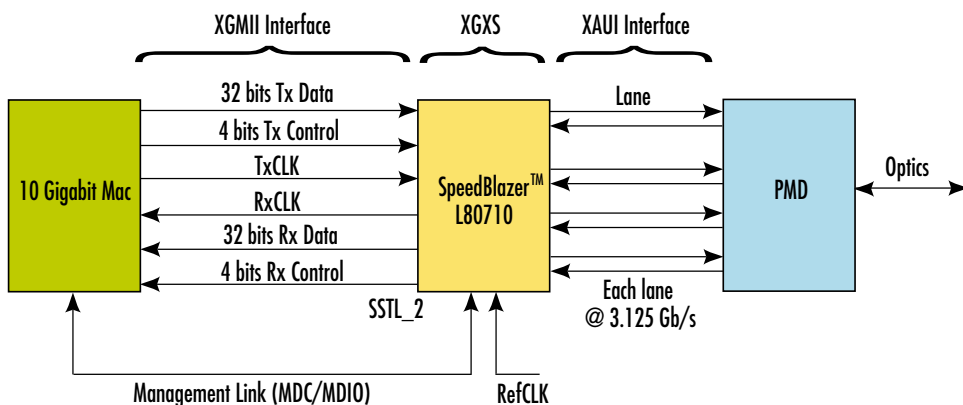


Figure 2. Typical 10 Gb Ethernet Application