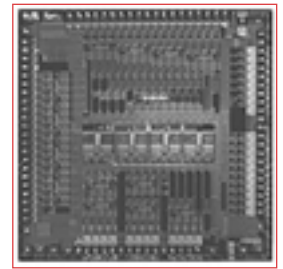




BCM8710 PRODUCT Brief



10.3125 Gbps ETHERNET 16:1 SERIALIZER WITH CMU AND XSBI INTERFACE

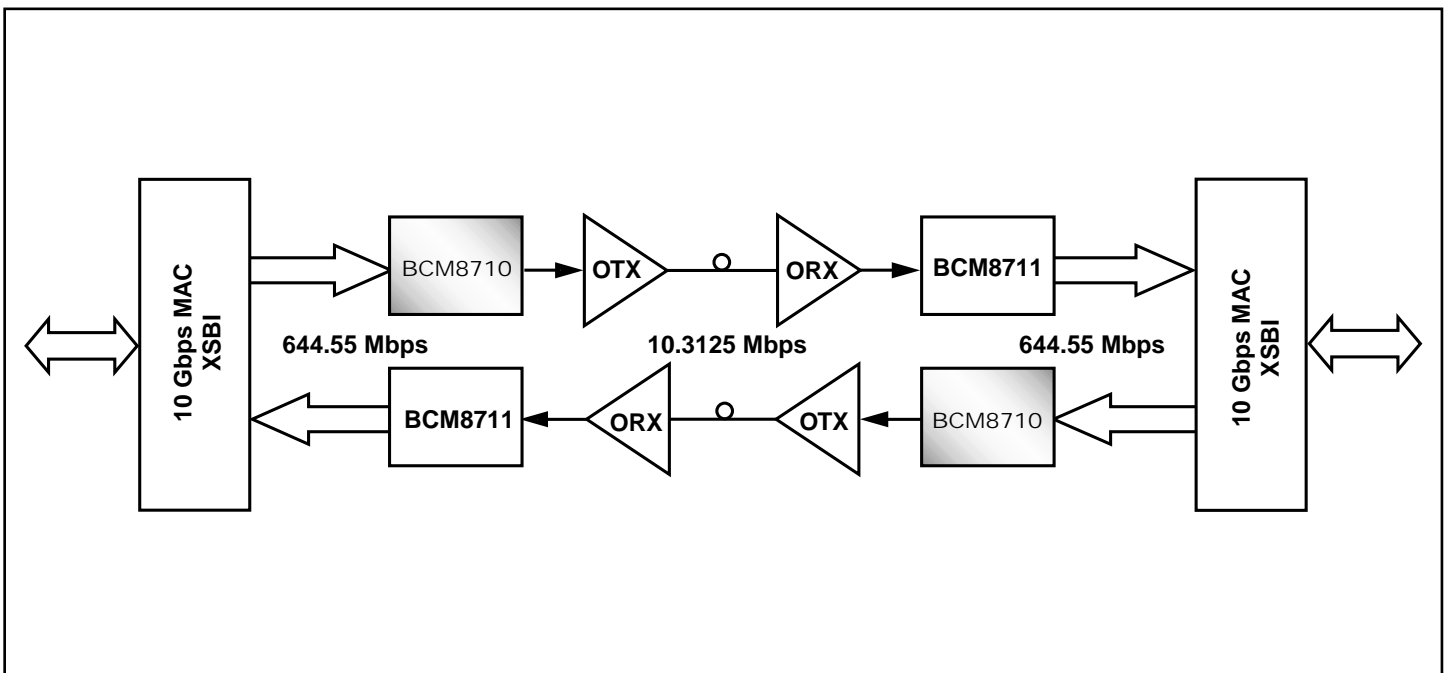
BCM8710 FEATURES

- IEEE 802.3ae 10.3125 Gbps Ethernet Serializer and Clock Multiplication Unit (CMU)
- 16:1 serializer with XSBI LVDS 644.55 Mbps data inputs
- On-chip 16 x 9 FIFO eliminates system timing issues
- 10.3125 GHz TX clock output
- 161.14/644.55 MHz selectable reference clock
- Lock detect
- Core power supply: 1.8V
- I/O power supplies: CML and LVDS at 1.8V, CMOS at 1.8V or 3.3V
- Power consumption: 500 mW at 1.8V
- 120-pin BGA package
- Standard CMOS fabrication process

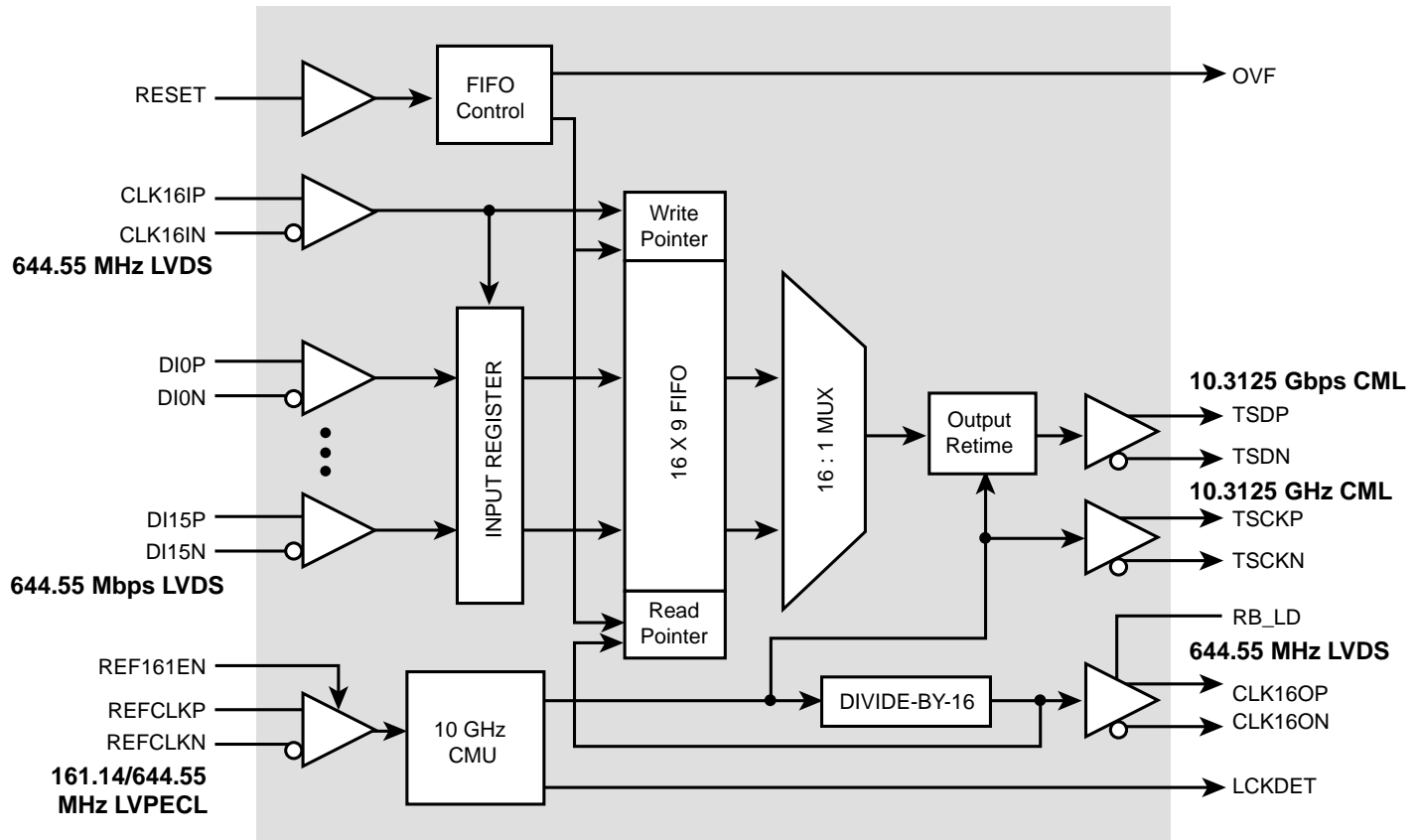
SUMMARY OF BENEFITS

- Low-power consumption eliminates external heat sinks, fans for system airflow, and expensive high current power supplies.
- Reduces design cycle and time to market.
- CMOS-based device uses the most effective silicon economy of scale.
- Target applications:
 - LAN/MAN/WAN switch
 - Switch/router backbone
 - Hubs
 - Repeaters
 - Network Interface Cards (NICs)
 - Test equipment

Application Block Diagram



Block Diagram



The **BCM8710** Ethernet transmitter is a fully integrated IEEE 802.3ae serialization (10.3125 Gbps) interface device with an integrated CMU.

On-chip clock synthesis is performed by the high-frequency, low-jitter phase-locked loop (PLL) on the **BCM8710** transmitter chip, allowing the use of a 161.14 MHz or a 644.55 MHz external transmit reference clock.

The **BCM8710** transmitter implements transmit functions for Ethernet 10.3125 Gbps equipment.

The block diagram shows the major transmitter functions of the chip.

Features include:

- XSBI 16-bit, LVDS parallel input
- Elastic buffering
- 10.3125 GHz clock output
- 10.3125 Gbps data output
- Parallel-to-serial conversion
- Serial differential data output
- Lock detect

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