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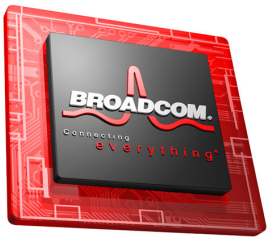
BCM8011
PRODUCT Brief



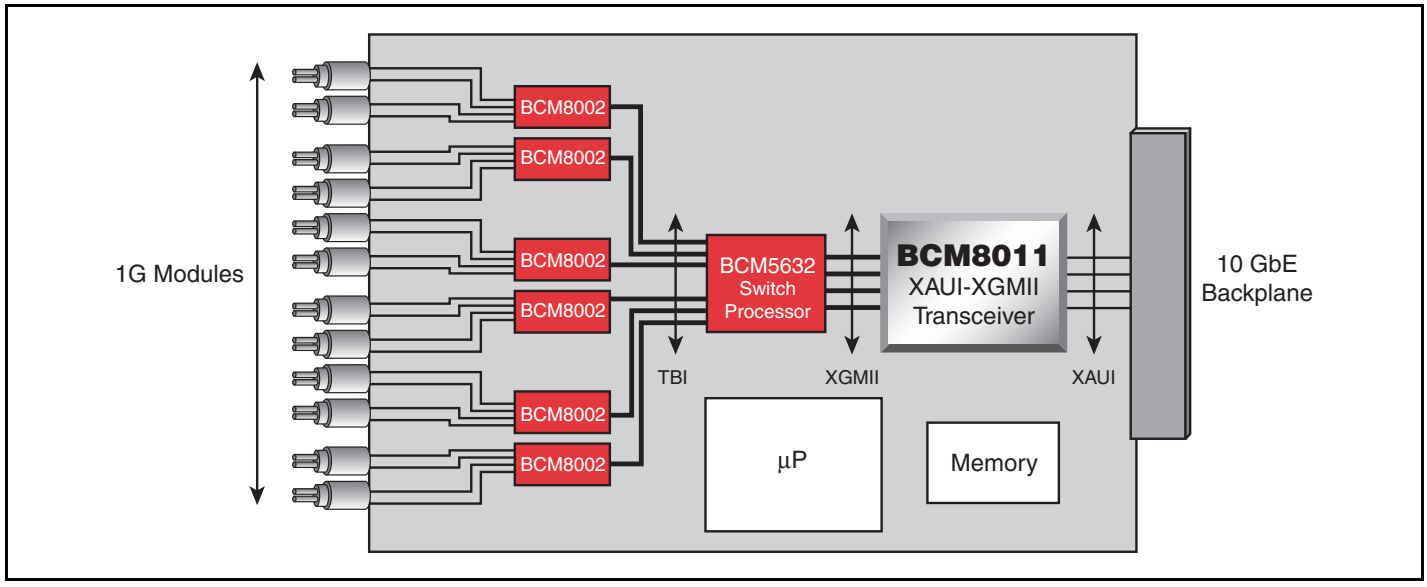
FOUR-CHANNEL 3.125 GIGABIT ETHERNET CMOS TRANSCEIVER

FEATURES

- Support for four channels of 3.125 GigaBaud per second (GBd) resulting in an effective aggregate data rate of 10 Gigabits per second (Gbps)
- Support for the 10 Gigabit attachment unit (XAUI) and 10 Gigabit media independent interface (XGMII) proposed by the IEEE 802.3ae standards
- Less than 3 ps Root Mean Square (RMS) transmit jitter using Broadcom's LC-VCO technology
- 32 bytes of de-skewing capability for the channels
- 32-bit parallel interface compatible to SSTL_2/HSTL (1.5) Class I EIA/JEDEC specifications
- On-chip phase-locked loop (PLL), providing clock synthesis from 156.25 MHz clock references
- Optional 8B/10B encoder and 10B/8B decoder in each channel
- Parallel or serial loopback modes
- Built-In Self-Test (BIST) capability
- Termination resistors on-chip
- Implemented in a 0.18µ standard CMOS process technology (1.8V and 2.5V supplies)
- 2.5W nominal power
- 324-pin FBGA package (19 mm x 19 mm)

SUMMARY OF BENEFITS

- Enables data transfer rate of 10 Gbps over metropolitan network when used with wavelength division multiplexing (WDM) or XAUI interface to a serial 10-Gbps laser module.
- Ultra-low transmitter jitter on each channel results in a longer cable reach (in excess of 40 km).
- EyeOpener™ adaptive equalizer extends the speed and reach of copper traces over FR4 backplane.
- Adaptive equalization and ultra-low receiver jitter enhance the receive eye pattern, which results in a superb bit-error rate (BER).
- Easy-to-use programming of the global configuration registers facilitates the design of the system. It provides enable/disable functions such as PLL lock, channel synchronization, VCO bypass, serial and loopback modes for self-diagnosis, and selecting source-centered and source-synchronous clocking.
- In-system at-speed link and on-board Built-In-Self-Test (BIST) is available using programmable pseudo-random bit sequence (PRBS) and programmable pattern comparators.



Application Diagram

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