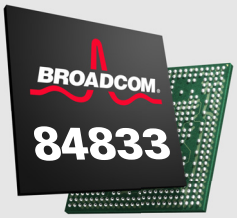


TWO-PORT 10GBASE-T TRANSCEIVER



Highlights

- The BCM84833 is a new member of the Broadcom 40 nm 10GBASE-T PHY family.
- Devices based on the 40 nm process offer an excellent long-term cost curve, enabling better cost reduction over time compared to legacy technologies.
- EEE provides significant power reduction with AutogrEEEn delivering EEE for legacy MACs.
- Optimized to enable switch, controller, and other general 10-Gigabit Ethernet (GbE) connectivity applications.
- Simplified systems design with only two supplies and with no external MDI components.
- Broadcom enhanced cable diagnostics estimates cable length and detects cable or termination anomalies.
- IEEE 1588 Precision Time Protocol (PTP) provides precise and accurate synchronization of nodes in the network.

	BCM84833
Service Provider	◐
OTN/PTN	◐
Data Centers	●
Enterprise	●

◐ Supported ● Best Choice

Overview

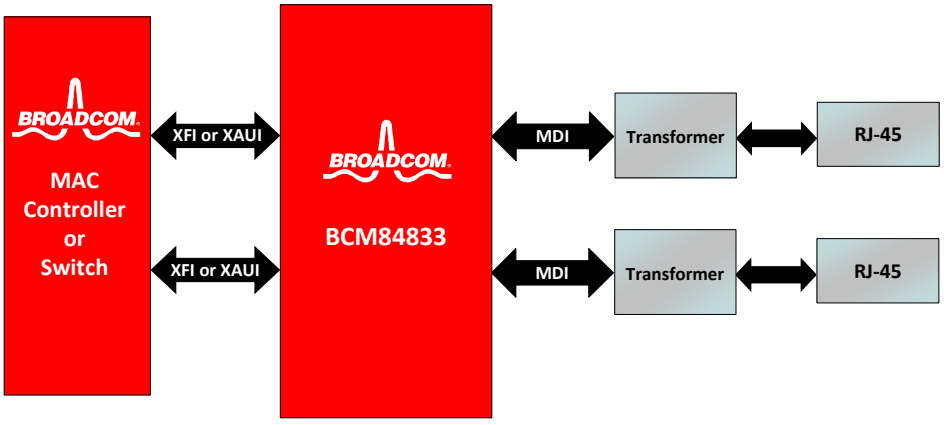
The Broadcom® BCM84833 is a complete dual 100BASE-TX, 1000BASE-T, and 10GBASE-T solution operating at 100m over CAT6a UTP cable. It is based on highly advanced digital signal processor-based architecture to allow robust operation over worst case UTP cables. The BCM84833 is a highly integrated solution combining enhanced analog front ends with digital adaptive equalizers, ADCs, phase-locked loops, line drivers, LDPC encoders and decoders, echo cancellers, crosstalk cancellers, and all required support circuitry.

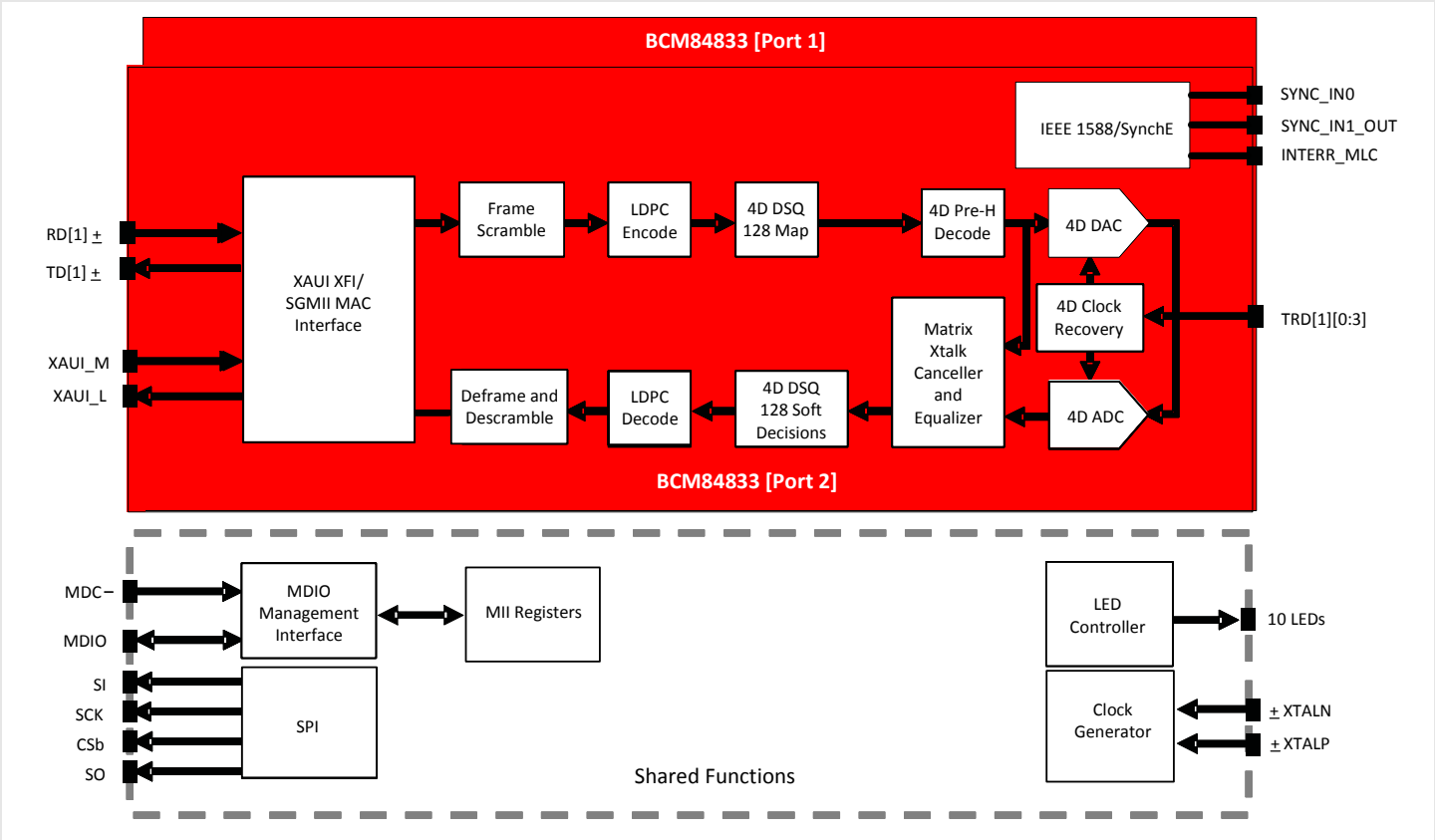
Summary of Benefits

- Simplifies system and board design:
  - Reduces PCB space
  - Lowers system bill of materials (BOM)
- IEEE standard device interoperability: 100 Mbps, 1000 Mbps, and 10 Gbps.
- Compatible with standard Ethernet MACs.
- Cuts design constraints to meet EMI standards.
- Cable diagnostics identifies cable plant condition to immediately trace cabling issues.
- Operates with larger packets for increased-scale packet protocol support and efficiency.

Features

- Highly integrated two-port 10GBASE-T Ethernet transceiver.
- Supports multiple speeds: 100BASE-TX and 1000BASE-T
- XAUI™, XFI, and SGMII MAC interface options
- Compliant with IEEE 802.3™, IEEE 802.3an, IEEE 802.3ab, IEEE 802.3u, and IEEE 802.3az standards.
- AutogrEEEn® permits legacy MACs to enjoy the power savings of EEE in periods of reduced link utilization.
- Synchronous Ethernet support
- Low electromagnetic interference (EMI) emissions
- Line-side XAUI enables dual-media applications
- Cable plant diagnostics
- IEEE standard 1588-2008 (version 2) support
- Detection and correction of pair swaps (MDI crossover), pair skew, and pair polarity.
- Support for jumbo packets up to 18 KB.
- Super-Isolate mode to completely disable selected port.
- IEEE 1149.1 (JTAG) boundary scan
- Extensive selection of both line and network side loopbacks.
- 576-pin FBGA 25 mm x 25 mm package





BCM84833 Block Diagram for Each Port

Each BCM84833 port contains one XFI interface to connect to the MAC side and two XAUI ports. One interface connects to the MAC side, with the other available on the line side to support dual-media applications. This dual-port enables customers to design dual-port PCIe™ NICs and full-featured dual-media 10GBASE-T ports in switching applications.

The 40 nm process offers the best performance, lowest cost, and lowest power for 10-Gigabit copper applications and enables a highly integrated solution.

The BCM84833 incorporates various advanced features. A link quality indicator LED provides instant notification of any problems with the wiring plant operating at the desired speed. These problems include physical wiring defects that the BCM84833 cannot automatically correct and channel conditions such as excessive cable length and return loss, crosstalk, echo, and noise.

Ordering Information

	Part Number
576-pin FBGA (RoHS-compliant)	BCM84833B1KFEBG

About Broadcom

Broadcom Corporation is a major technology innovator and global leader in semiconductors for wired and wireless communications. Broadcom® products enable the delivery of voice, video, data and multimedia to and throughout the home, the office and the mobile environment. We provide the industry's broadest portfolio of state-of-the-art system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices.

These solutions support our core mission: Connecting everything®.

Broadcom, one of the world's largest fabless communications semiconductor companies, with 2010 revenue of $6.82 billion, holds more than 4,800 U.S. and 2,000 foreign patents, and has more than 7,800 additional pending patent applications, and one of the broadest intellectual property portfolios addressing both wired and wireless transmission of voice, video, data and multimedia.

A FORTUNE 500® company, Broadcom is headquartered in Irvine, Calif., and has offices and research facilities in North America, Asia and Europe. Broadcom may be contacted at +1.949.926.5000 or at www.broadcom.com.

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May 24, 2011 • 84833-PB02-R