Broadcom
BCM89200
Automotive Switching
Technology

Connecting
everything®

4-Port Integrated BroadR-Reach® Automotive Switch

Highlights

- World's first automotive switch with integrated BroadR-Reach PHYs—which support cost-effective connectivity through lower cabling and connector cost.
- Advanced power savings with green technology.
- Highly optimized for multiple in-car network applications.
- Enhanced design to meet stringent automotive production requirements.
- Supports various uplink ports for connectivity to external devices—making it the perfect solution for automotive applications such as interconnectiviety in the car.

Overview

The BCM89200 device is Broadcom's first fully integrated BroadR-Reach® multilayer switch to support automotive qualification (AEC-Q100) for in-car networking applications.
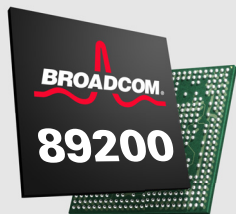
The BCM89200 is part of a family of products that provide optimal solutions for key automotive designs that have high-performance yet challenging low-power requirements. Building upon industry-leading 65 nm architecture, the BCM89200 supports multiple intuitive low-power modes as well as an automotive cable diagnostics feature.

Architectural Features

- Enhanced architecture supports nonblocking, line-rate data transfer at wirespeed performance for all frame sizes over unshielded single-pair twisted cable.
- Integrated switch core with with provisions for the integrated ARM® Cortex™ R4 processor and dedicated on-chip SRAM to send and receive frames.
- Processor subsystem that supports timing stack and AVB bridging support functions.
- Deep Sleep and Ultralow Power mode support, which reduces power consumption to zero during periods of inactivity.

Product Family Features

- Specific architectural and design enhancements that increase design for test, reliability, and quality, surpassing AEC-Q100 and EMC requirements.
- Support for IEEE 1588 and IEEE 802.1AS timing functions.
- Support for both peer-to-peer and end-to-end transparent clocking in hardware.
- Automotive cable diagnostics feature, which can detect pair open/short and distance.
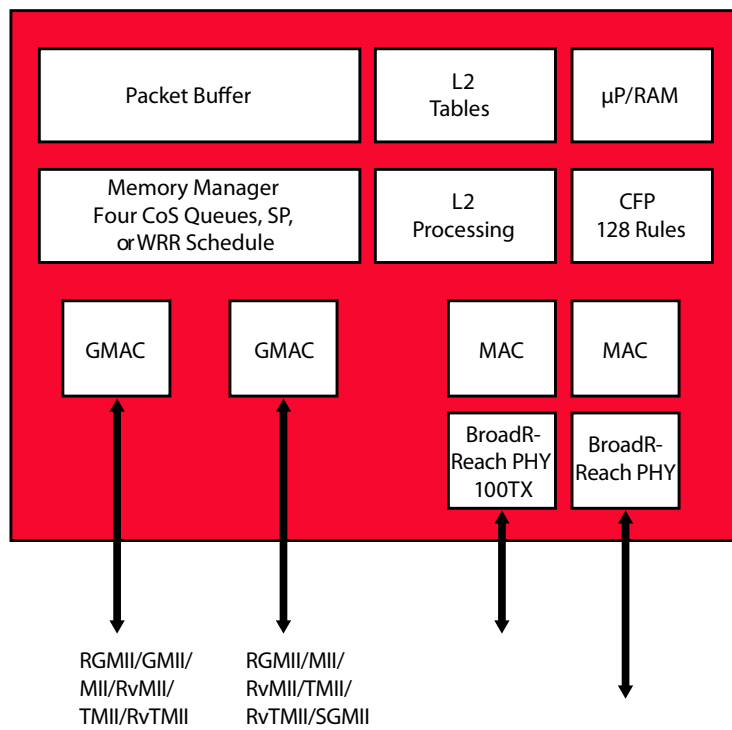
	BCM89200
Automotive	●
Industrial Automation	●
Broadband Access	●

◑ Supported   ● Best Choice

BCM89200 Block Diagram

The BCM89200 expands Broadcom's leadership in Ethernet switching technology by delivering an optimized solution for automotive applications requiring nonblocking switching performance

Examples of applications requiring nonblocking switching include interconnectivity in the car that bridges automotive Electronic Control Units with vital systems such as Head Units, Central Gateways, and On-Board Diagnostic ports.

The BCM89200 can interconnect with other devices through multiple interfaces, including RGMII, GMII, MII, and Turbo MII, to enable the design of scalable, high-performance systems

Requirements such as high-precision stereo cameras, rear-seat entertainment units, and multichannel amplifiers are driving the need for adherence to quality of service requirements, specifically highly synchronized and accurate timing.

The BCM89200 device supports IEEE 1588 and IEEE 802.1AS timing functions designed for both peer-to-peer and end-to-end transparent clocking in hardware.

This product family delivers the most comprehensive automotive technology solution required by OEM and Tier 1 suppliers, meeting or exceeding CISPR 25 component-level, ISO 11452-5 Stripline, ISO 11452-4, IEC 61000-4-2, automotive Grade 2 temperature, AEC-Q100, and TS 16949 certifications.

Ordering Information

Ordering Information	Interface	Part Number
176-pin 24 x 24 eLQFP package	Two integrated BroadR-Reach PHYs + two uplink ports	BCM89200

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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