BROADCOM®

BCM5340X/BCM5341X
160 Gb/s Multilayer Switch
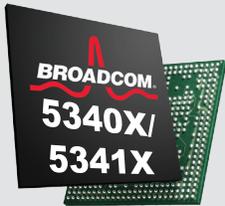
Key Features

- Low-power 10GbE switch.
- Small footprint, low-power, and flexible switch based on StrataConnect® architecture.
- Diverse I/O and speed support for embedded control/data plane, backplane, and WebSmart applications.
- L2+ features include ACL, eight Class of Service queues, and VLAN translation.
- Optional integrated Arm A9 CPU.
- Integrated 10G SerDes with diverse I/O for multiple configurations.
- Advanced single-stage ContentAware® Engine for ACL and DoS.
- Optimized for Embedded control/data plane and WebSmart applications in SMB networks.
- Nonblocked, full wirespeed performance for 16x 10GbE systems.
- OAM support with IEEE 802.1ag.
- Timestamping support with 1588 TC and SyncE.
- Enhanced buffer management for robust burst absorption.
- IPv4 and IPv6 support.
- Low-power Energy Efficient Ethernet support.

Overview

The Broadcom® BCM5340X/ BCM5341X System-on-a-Chip (SoC) switch family offers industry-leading integration and performance in a small footprint. The device offers up to 16 multilayer 10GbE ports. Offering the industry's highest level of integration, the BCM5340X/ BCM5341X family of switches has embedded SerDes supporting KX, KR, XFI, XAUI, RXAUI, SGMII, and QSGMII modes, as well as an optional powerful Arm A9 single-core processor. The BCM5340X/ BCM5341X is ideal for cost-sensitive connectivity applications, such as embedded designs for control/data plane applications, or WebSmart switches for Small and Medium Businesses (SMBs).

The BCM5340X/BCM5341X device family offers multiple I/O configurations and speeds (1G/2.5G/5G/10G) that address key segments of connectivity.

With an integrated packet buffer and the industry's lowest power consumption, the BCM5340X/ BCM5341X family of switches is designed to reduce overall system costs.

The optimized I/O map reduces system design effort and enables low-cost PCB design. The BCM5340X/BCM5341X device family offers many advanced features, such as IEEE 802.1Q VLAN, VLAN translation, enhanced Denial of Service (DoS) protection, IPv4 and IPv6 support, an advanced ContentAware Engine, and IEEE 802.1p Quality of Service (QoS).

Features

- Highly integrated 16-port 10 Gb/s Ethernet switch SoC with integrated 10G SerDes and optional CPU.
- Diverse selection of natively supported interfaces (KX, KR, XFI, XAUI, RXAUI, SGMII, QSGMII).
- Support for port extender applications (HiGig™) with Priority-based Flow Control (PFC).
- Timestamping support with IEEE1588 transparent clock (TC) and Synchronized Ethernet (SyncE), as well as OAM (IEEE 802.1ag).
- Nonblocking architecture line rate for all packet sizes.
- Fully integrated packet buffer.
- Intelligent Memory Management Unit (MMU) optimized for handling bursty data traffic.
- L2, IPv4/IPv6 L3 packet classification.
- Flexible Access Control List (ACL).
- IPv4 and IPv6 L3 routing support.
- Enhanced DoS attack statistics gathering.
- EEE support.
- Support for industrial temperatures.
- Low power consumption.
- Optional high performance Arm A9 processor
- Enables multiple SerDes configurations of 1G, 2.5G, 5G, and 10G.

StrataConnect Switching Technology

Benefits

- Based on industry-leading and market-proven StrataConnect architecture.

- Single-chip switch SoC optimized for embedded control/data plane as well as WebSmart connectivity applications for SMB networks.

- Flexible I/O configuration support for future-proofing.

- Seamless connection to StrataXGS® fabric using the HiGig2™ or HiGig+™ (recommended) protocol.

- Enhanced buffer management delivers optimum usage of packet-buffer resources.

- Eight flexible Class of Service queues per port assure the lowest latency to high-priority traffic.

- IPv6 support provides future-proofing.

- Leverages the Broadcom unified API for software reuse and quick time-to-market.

- Optimized ball pattern for low-cost PCB design.

Figure. BCM5340X/BCM5341X Block Diagram
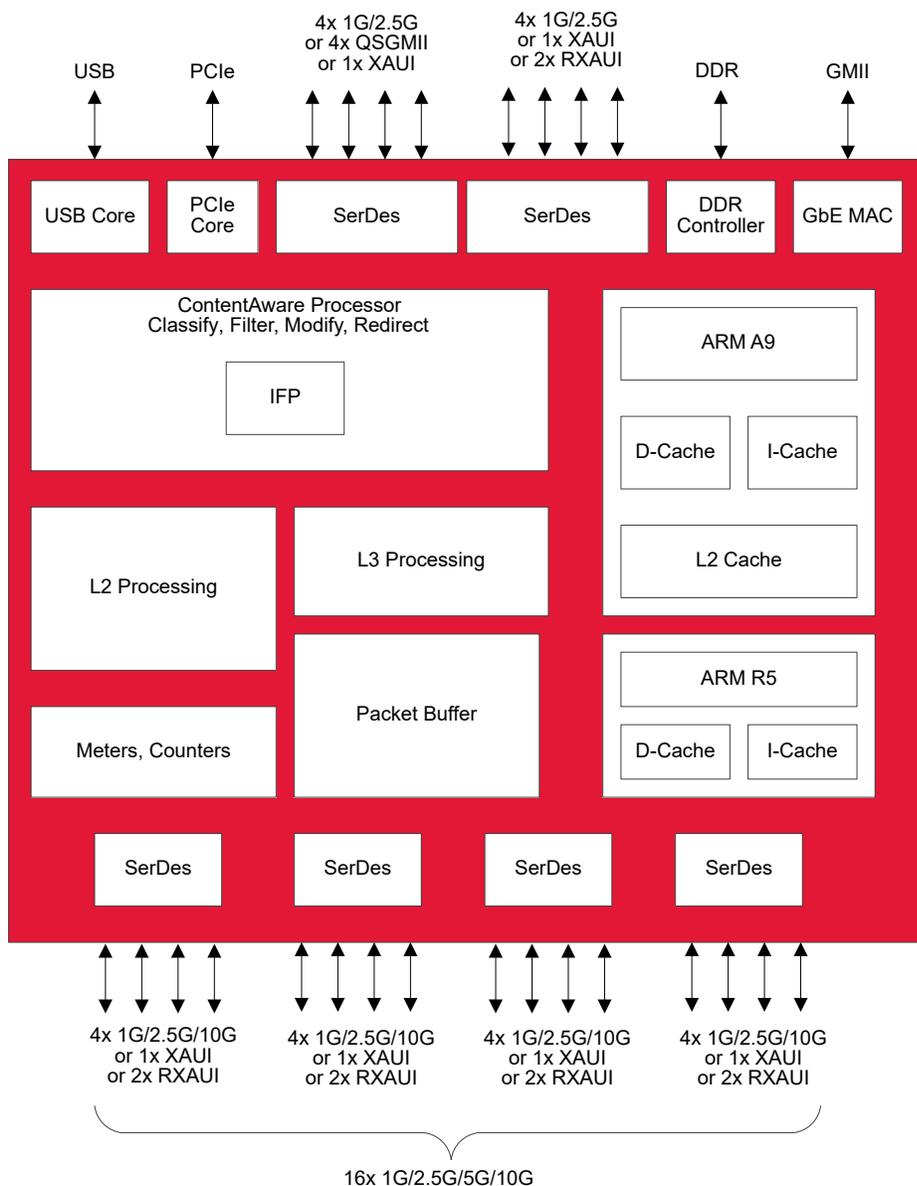
Ordering Information

Part Number	Description
BCM53412	8x 1G/2.5G/5G/10G (integrated CPU)
BCM53402	8x 1G/2.5G/5G/10G (no CPU)
BCM53416	12x 1G/2.5G/5G/10G + 12x 1G/2.5G (integrated CPU)
BCM53406	12x 1G/2.5G/5G/10G + 12x 1G/2.5G (no CPU)
BCM53415	16x 1G/2.5G/5G/10G (integrated CPU)
BCM53405	16x 1G/2.5G/5G/10G (no CPU)

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