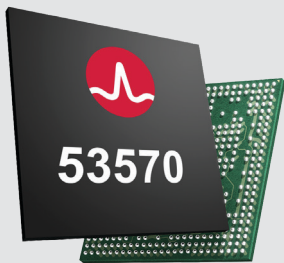


BCM53570

1G/2.5G/10G/25G TSN Connectivity Switch



Key Features

- Line-rate, non-blocking architecture
- High-performance ARM Cortex-A9 and R5 processors
- Flexible I/O configurations of 100M, 1.0G, 2.5G, 5G, 10G, 25G, 40G, and 50G link speeds
- Cut-through switching for low-latency applications
- Complete TSN feature implementation in industrial temp SKUs including:
 - Path control and reservation (IEEE 802.1Qca)
 - Time aware shaper (IEEE 802.1Qbv)
 - Frame preemption (IEEE 802.1Qbu/IEEE 802.3br)
 - Cyclic queuing and forwarding (IEEE 802.1Qch)
 - Timing and synchronization, PTP, IEEE 802.1AS-Rev, 1588 v2
 - Stream reservation protocol enhancement (IEEE 802.1Qcc)
 - Time-based ingress policer (IEEE 802.1Qci)
 - Frame replication and elimination for reliability (IEEE 802.1CB)
 - Front-haul network profile (IEEE 802.1CM)
- Integrated HSR/PRP (High-availability Seamless Redundancy (IEC 52439-3 C4)/ Parallel Redundancy Protocol (IEC 62439-3 C5))

Description

The Broadcom® StrataConnect® BCM53570 System-on-a-Chip (SoC) features an integrated high-speed ARM Cortex-A9 processor, embedded Cortex-R5 processor, and enterprise-level buffer and table sizes. It includes comprehensive IEEE standards-compliant Time-Sensitive Networking (TSN) features such as Preemption, Time Aware Scheduling, and Seamless Redundancy to provide deterministic behavior to Industrial Ethernet, 5G Wireless connectivity, and transport networks. The BCM53570 also offers unparalleled integration for supporting Ethernet time synchronization.

Additional key switching features include efficiently sized tables, and MultiGigabit Ethernet (MGig) capable I/Os for 24- to 48- port SMB/SME stackable switches with uplinks.

The device is also well suited for high-density 1G/2.5G connectivity applications with 25G/40G/50G uplinks such as base stations, flash storage arrays, professional-grade audio/visual, and chassis backplanes.

The BCM53570 family supports VNTag and IEEE 802.1br to implement port-extender functionality.

All members of the BCM53570 family offer many shared advanced features such as IEEE 802.1Q VLAN, VLAN translation, enhanced Denial-of-Service (DoS) protection, an advanced ContentAware™ engine, IEEE VNTag and IEEE 802.1br Port Extension, and IEEE 802.1p QoS.

Benefits

- Single-chip 48-port MGig managed switch platform optimized for embedded control plane as well as enhanced enterprise networks
- Eight flexible Class-of-Service (CoS) queues per port assure the lowest latency to high-priority traffic, 17.7 dB associated gain
- IPv6 support provides future-proofing
- High-performance HGd[50] stacking
- Leverages the Broadcom unified API for software reuse and quick time-to-market

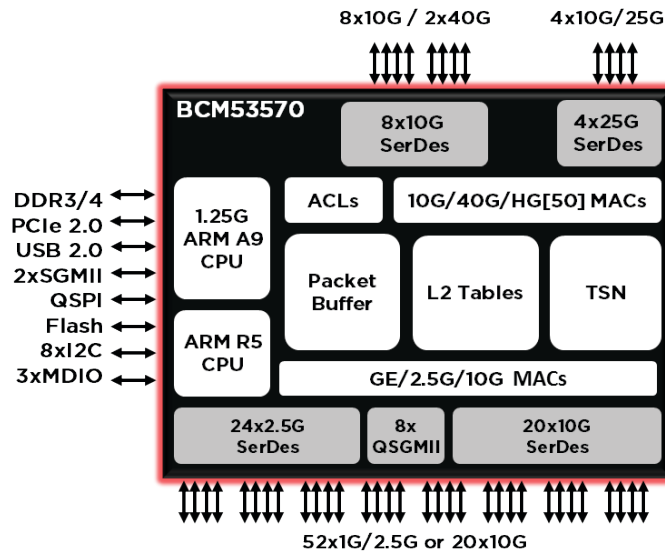
Applications

- SMB/SME 2.5G/10G switches
- Industrial Ethernet/Automotive applications using Time-Sensitive Networking (TSN)
- Embedded connectivity switch for base stations, flash storage arrays, professional-grade audio/visual, and chassis backplanes

Key Features (con't)

- Support for port extender applications (IEEE 802.1br, eTAG, VNTag, HiGig™)
- Support for direct connect to IEEE 802.3bz PHY devices for 2.5 Gb/s and 5.0 Gb/s connectivity
- Layer 2, IPv4/IPv6 Layer 3, Layer 4, and User-Defined Field (UDF) based packet classification
- Priority-based Flow Control (PFC)
- Synchronized Ethernet (SyncE)
- OAM (IEEE 802.1ag and ITU-T Y.1731)
- Low-power 28 nm CMOS process

BCM53570 Block Diagram



Ordering Information

Part Number	Package	Description
BCM53570B0KFSBG	31 mm x 31 mm	24x10G + 8x10G/4x25G 56x1G/2.5G + 8x10G/4x25G
BCM53570B0IFSBG (TSN feature available)	31 mm x 31 mm	24x10G + 8x10G/4x25G 56x1G/2.5G + 8x10G/4x25G
BCM53575B0KFSBG	31 mm x 31 mm	24x1G + 4x10G
BCM53575B0IFSBG (TSN feature available)	31 mm x 31 mm	24x1G + 4x10G