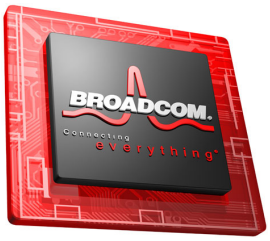
BROADCOM®
Connecting everything®

BCM5703S
PRODUCT Brief



10/100/1000BASE-T CONTROLLER WITH INTEGRATED TRANSCEIVER

FEATURES

- **Single-chip solution for LAN on Motherboard (LOM) and network interface card (NIC) applications**
  - Integrated SerDes interface
  - 10/100/1000 Mbps triple-speed media access controller (MAC)
  - Host interfaces
    - PCI v2.2, 32/64-bit, 33/66 MHz
    - PCI-X v1.0 64-bit, 66/100/133 MHz
  - Ultra-deep 96 KB, on-chip packet buffer
  - Dual high-speed RISC cores with 16-KB caches
- **Programmable, in-line packet classification**
  - SMBus controller
  - On-chip power circuit controller and Wake on LAN power switching circuit
- **Performance features**
  - TCP, IP, UDP checksum
  - TCP segmentation
  - CPU task offload
  - Adaptive interrupts
  - Ultra-deep 96 KB packet buffer
- **Robust manageability**
  - PXE 2.0 remote boot
  - Alert Standard Format (ASF 1.0 support)
  - Wake on LAN
  - Statistics gathering: SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, Clause 30)
  - Comprehensive diagnostic and configuration software suite
  - ACPI 1.1a compliant (multiple power modes)
- **Advanced network features**
  - Priority queuing (802.1p layer 2 priority encoding; support for four priority queues)
  - Virtual LANs (802.1q VLAN tagging; support for up to 64 VLANs)
  - Jumbo frames (9 KB)
  - 802.3x flow control
- **Advanced server features**
  - Link aggregation: 802.3ad, GEC/FEC, Smart Load Balancing™ (supports heterogeneous teams)
  - Heterogeneous mixed-speed failover
  - Hot-Plug PCI support
- **Low power, 0.13-µm CMOS design**
- **300-pin HBGA package**
- **3.3V I/Os (5V tolerant)**
- **JTAG**

SUMMARY OF BENEFITS

- **Industry's smallest 10/100/1000 MAC/PHY solution (power and space optimized for LOM and low-profile NIC applications)**
- **Integrated 1.25-Gbps SerDes**
  - IEEE 802.3z compliant
  - For fiber on backplane applications
- **Futureproof**
  - PCI-X interface, on-chip programmable CPUs, ASF support
- **Performance focused (optimized for throughput and CPU utilization)**
  - Adaptive interrupts
  - PCI-X® eliminates PCI bottlenecks
  - Ultra-deep 96-KB packet buffer lowers CPU utilization and averts PCI congestion
  - CPU task offloads reduce CPU utilization level
- **Robust and highly manageable**
  - PXE 2.0, ACPI 1.1, Wake on LAN, ASF 1.0, IPMI 1.5
  - Broadcom EyeOpener® adaptive equilization technology (allows longer backplane lengths and robust signal integrity)
- **Advanced features**
  - VLAN, priority queuing, jumbo frames
  - RISC processors for advanced packet classification
- **Server-class reliability, availability, and performance features**
  - Link aggregation and load balancing
    - Switch-dependent
  - 802.3ad (LACP), generic trunking (GEC/FEC)
    - Switch- and NIC-independent
  - Smart Load Balancing™ (unique technology that supports heterogeneous teams, and can operate with any switch)
  - Failover
    - Smart Load Balancing allows heterogeneous failover
  - Hot-Plug PCI support
- **Low power for zero airflow implementations**
  - 0.13-µm CMOS design
  - Advanced power management
- **Space savings for LOM**
  - 300-pin HBGA package
  - No external memory
  - Integrated power circuitry