BROADCOM ®

C o n n e c t i n g

e v e r y t h i n g ®

BCM5700
PRODUCT
Brief

BCM5700 PCI-X 10/100/1000BASE-T CONTROLLER

BCM5700 FEATURES

- 10/100/1000 Mbps tri-speed media access controller (MAC) with wire speed performance at all rates
- Support for PCI v2.2, 32/64-bit, 33/66 MHz, and PCI-X v1.0 32/64-bit, 66/133-MHz bus interfaces
- 96 KB ultra-deep packet buffer with support for up to 16 MB externally
- Support for IEEE 802.3, 802.3u, 802.3z, and 802.3ab standards
- MII/GMII and TBI (SerDes style) transceiver interfaces
- Advanced CPU offload features include: TCP/UDP/IP checksum offload, TCP segmentation, 9 KB jumbo frame
- Dual high-speed CPUs
- Microsoft® PC99 compliant: support for ACPI ver 1.1a, Wake on LAN, PXE version 2.0, and statistics for SNMP MIB II, Ethernet-like MIB, and Ethernet MIB (802.3z, Clause 30)
- Layer 2 priority encoding (802.3p) (up to 16 priority queues)
- VLAN tagging (IEEE 802.3q)
- Flow control (IEEE 802.3x)
- Link aggregation (IEEE802.3ad)
- Multiple power modes with programmable low power operation
- Low power design – 3.3 V/1.8 V, 0.18 µm CMOS
- 5V tolerant PCI I/Os
- 388-pin PBGA package

SUMMARY OF BENEFITS

- Features wire speed operation at all speeds.
- The BCM5700 is ideal for new high-speed network interface cards (NIC) and LAN on Motherboard (LOM) applications, while maintaining backward compatibility with today's networks.
- Support for both the PCI 2.2 and PCI-X standard enables the BCM5700 to run in any PCI-based or PCI-X systems.
- The ultra-deep on-chip packet buffer allows the BCM5700 to continuously transmit and receive at high speeds in systems where the PCI/PCI-X bus is shared with other devices.
- On-chip CPUs perform advanced functions and allow the BCM5700 to evolve with new standards. The CPUs also provide advanced packet parsing capabilities, making the BCM5700 an OSI L4 protocol aware device, providing many advanced features and offloads.
- Advanced offload features promote high throughput, while minimizing host CPU utilization.
- Combined with the BCM5401 and newer Broadcom 10/100/1000BASE-T PHYs, the BCM5700 supports ACPI-compliant Wake on LAN implementations.
- Additional manageability features enable NIC and LOM designs to comply with relevant manageability standards for server and desktop applications.
- Provides low power operation—0.18 µm advanced process technology, combined with programmable power management.

BCM5700 10/100/1000 PCI-X NIC Reference Design