BROADCOM®

Connecting
e v e r y t h i n g®

BCM5705
PRODUCT Brief

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

FEATURES

- **Single chip device for desktop LAN on Motherboard (LOM) or Network Interface Card (NIC) applications**
- **Integrated 10/100/1000BASE-T transceiver**
  - 10/100/1000BASE-T triple-speed MAC
  - PCI v2.2, 32-bit/33-MHz host interface
  - High-speed RISC core with 24-KB caches
  - SMBus 2.0 controller
  - On-chip power circuit controller and Wake-on LAN power switching circuit
- **Advanced power management—ACPI compliance**
- **Performance features**
  - TCP, IP, and UDP checksum
  - Microsoft® Large Send
  - TCP segmentation
  - CPU task offload
  - Adaptive interrupts
- **Robust manageability**
  - Wake-on LAN
  - Out-of-Box mode Wake-on LAN
  - PXE 2.0 remote boot
  - Alert Specification Forum (ASF) 1.0 support
  - Statistic Gathering (SNMP MIB II, Ethernet-like MIB, and Ethernet MIB [802.3x, clause 30])
  - Comprehensive diagnostic and configuration software suite
  - ACPI 1.1a complaint—multiple power modes
- **Advanced network features**
  - Virtual LANs—802.1q VLAN tagging that supports 64 VLANs
  - 802.3x flow control
  - Cable analyzer features detect cabling problems
- **3.3V I/Os (5V tolerant)**
- **JTAG**
- **Industry's smallest 10/100/1000 MAC+PHY solution**
  - Optimized for desktop LOM and NIC applications
  - Enables small form factor PCs

SUMMARY OF BENEFITS

- **Ultra-low power for small form factor PCs**
  - 0.13μ CMOS design allows industry's lowest power
  - Advanced power management
- **Enables desktop PC products for all segments—Allows one board layout for both Gigabit and Fast Ethernet applications**
- **Completely backward compatible, with existing:**
  - 10/100 network infrastructure
  - PCI-based desktop and mobile platforms
- **Future-proof with flexible firmware architecture**
  - Flexible firmware adapts to changing standards
  - Wirespeed custom packet filtering via on-board CPUs
- **Power optimized through reduced CPU utilization**
  - Adaptive interrupts minimizes calls to the PC's CPU
  - TCP/IP offloads reduce CPU burden significantly
  - Reduces power consumption of PC processor
  - Allows use of lower power/performance PC processor
- **Cable analyzer tests for network cable issues**
  - Customers can field-test using self-diagnostics
  - Dramatically reduces customer calls, returns, and costs
- **Robust and highly manageable**
  - PXE 2.0, ACPI 1.1, Wake-on LAN
  - Integrated cable testing—Link quality, length, pair skew, pair polarity, and pair swap
  - Flexible ASF 1.0
- **Space savings for LOM**
  - 196-pin HBGA package
  - No external memory
  - Integrated power circuitry reduces BOM costs

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