



A **BROADCOM** Company

# AC101L

## PRODUCT Brief

### 10/100BASE-TX SINGLE-PHY TRANSCEIVER

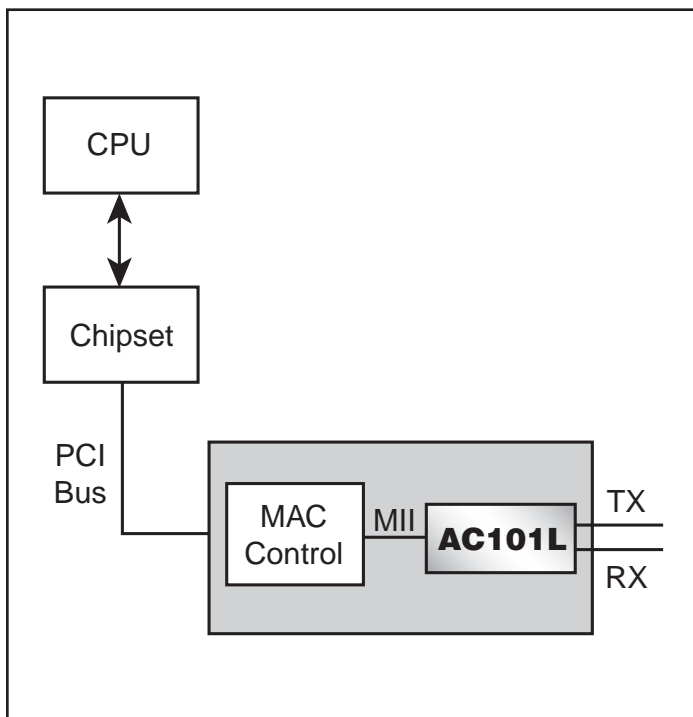
#### AC101L FEATURES

- Single port – 10BASE-T/100BASE-TX/100BASE-FX, Full Duplex or Half Duplex
- Power Supply: 2.5V or 3.3V
- Integrated voltage regulator to allow operation from single supply source
- Single port – MII or RMII
- HP Auto-MDIX
- Very small package – 48-pin TQFP
  - 49 sq. mm footprint
- Very low power – Typical < 200mW (100BASE-TX)
- Fully compliant with IEEE 802.3 / 802.3u
- Baseline wander correction
- Multi-function programmable LED outputs
- Reverse polarity detection and correction
- Read/write register bit indication
- Industrial temperature (3.3V only)

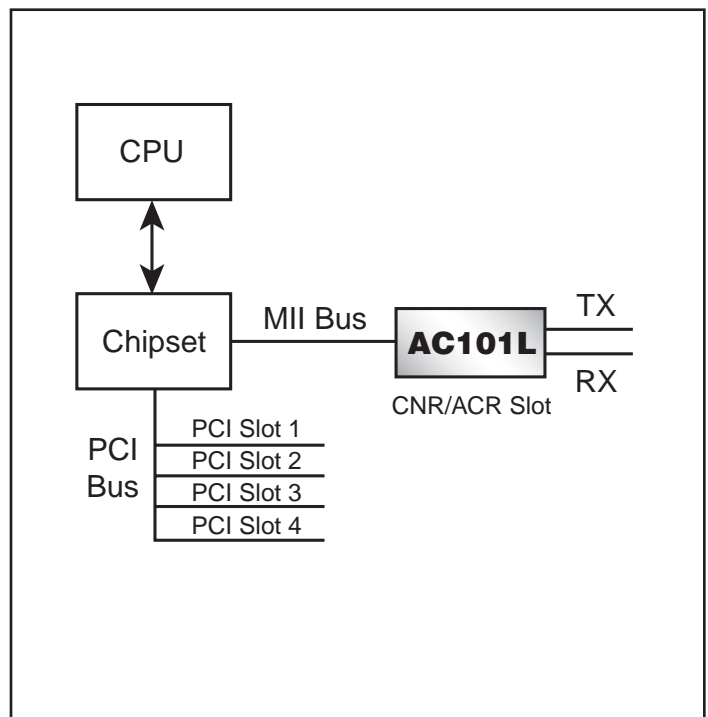
#### SUMMARY OF BENEFITS

- Fully integrated TX/FX PHY transceiver (MII/RMII-to TX magnetics or FX-Optics)
- Very low system cost
- Simplified board design
- HP Auto-MDIX detects and corrects crossed cables
- Automatically accommodates link partner polarity
- Very small footprint to allow reduced real-estate in space-critical applications such as PCMCIA cards
- Industry’s lowest power Fast Ethernet PHY
- Accommodates either a 3.3V or a 2.5V power supply
- Low power and intelligent power management
- Standby mode to conserve power

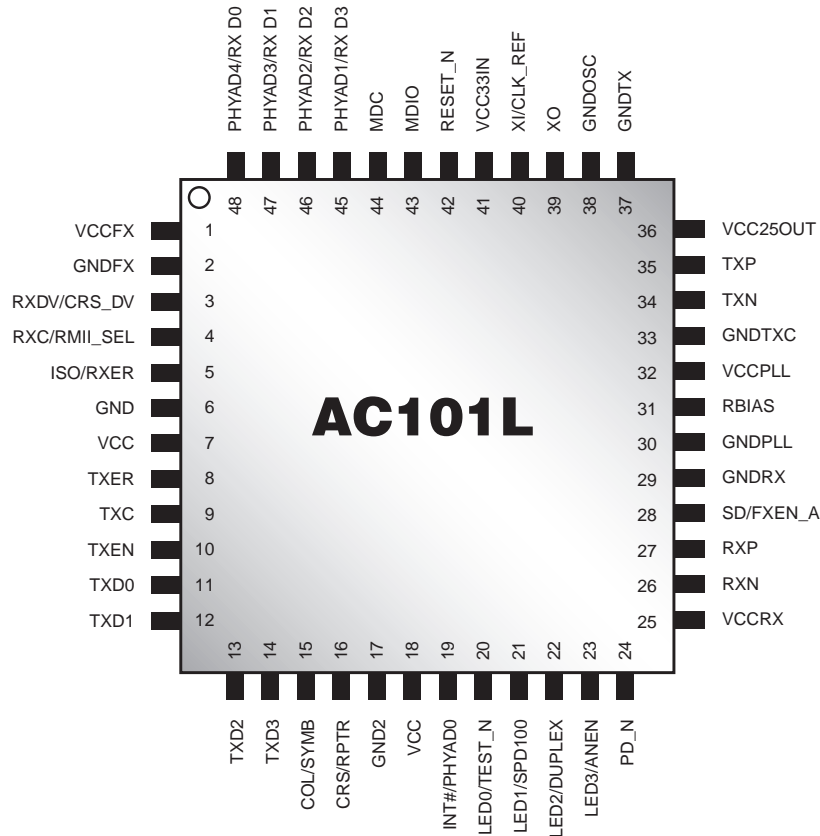
#### NIC 10/100 BASE-TX Application



#### PC Motherboard 10/100BASE-TX Application



# AC101L OVERVIEW



The **AC101L** provides all of the required features of an MII/RMII compliant 10/100TX/FX Ethernet transceiver. The **AC101L** has the lowest power consumption of any other single-port solution.

With a power dissipation of less than 200 mW, the **AC101L** is the industry's lowest-power Fast Ethernet PHY. It features an integrated voltage regulator, and can be supplied by either a 2.5V or a 3.3V power source. In addition, the **AC101L** has several intelligent power-down states that conserve power, yet allow products based on it to automatically turn on when needed. This feature is extremely useful in portable and power sensitive applications such as laptop LAN card adapters. Because most laptop users do not remove their LAN PC cards when working remotely, this feature results in a noticeably extended battery life for laptop computers.

### *Network Tolerance*

The **AC101L** includes features that simplify the installation and maintenance of local area networks. One such feature is the HP Auto-MDIX capability, which automatically detects and corrects crossed cables. With HP Auto-MDIX, the installer does not need to know what is on the other end of the network cable; the **AC101L** automatically switches its transmit and receive circuitry to accommodate the link partner's polarity.

When all system costs are considered, such as power, heat, components and real estate, the **AC101L** provides the lowest overall system cost and most reliable design.

