LXT974A/LXT975A

Fast Ethernet 10/100 Quad Transceivers

General Description

The LXT974A and LXT975A are four-port PHY Fast Ethernet Transceivers which support IEEE 802.3 physical layer applications at both 10 Mbps and 100 Mbps. They provide all of the active circuitry to interface four 802.3 Media Independent Interface (MII) compliant controllers to 10BASE-T and/or 100BASE-TX media.

All four ports on the LXT974A provide a combination twisted-pair (TP) or pseudo-ECL (PECL) interface for a 10/100BASE-TX or 100BASE-FX connection.

The LXT975A is pin compatible with the LXT974A except for the network ports. The LXT975A is optimized for dual-high stacked RJ45 modular applications and provides a twisted-pair interface on every port, but the PECL interface on only two.

The LXT974A/975 provides three separate LED drivers for each of the four PHY ports and a serial LED interface. In addition to standard Ethernet, each chip supports full-duplex operation at 10 Mbps and 100 Mbps.

The LXT974A/975 requires only a single 5V power supply. The MII may be operated independently with either a 3.3V or 5V supply.

Features

- Four independent IEEE 802.3-compliant 10BASE-T or 100BASE-TX ports in a single chip.
- 100BASE-FX fiber-optic capable.
- Standard CSMA/CD or full-duplex operation.
- Compliant with IEEE 802.3u auto-negotiation protocol and legacy 10BASE-T and 100BASE-TX systems without auto-negotiation capability.
- Baseline wander correction.
- Single 5V supply operation with provision for interface to 3.3V MII interface.
- Configurable on-chip LED drivers as well as serial LED output.
- Configurable through MII serial port or via external control pins.
- Available in 160-pin PQFP (0-70°C temp. range).

Applications

- 10BASE-T, 10/100-TX, or 100BASE-FX Switches and multi-port NICs.
- LXT975A optimized for dual-high stacked modular RJ45 applications.

LXT974A/975 Block Diagram