

Intel® LXT971A

Dual-speed 3.3V 10/100 Ethernet Transceiver

With Intel® Carrier Class Ethernet Support

Product Description

High-performance network applications that demand lower power are growing rapidly in today's marketplace. Intel, a leading provider of Ethernet silicon solutions, has enhanced the commitment to its Ethernet product family with its latest 10/100 Fast Ethernet transceiver. The Intel® LXT971A is a next-generation low-power, single-port PHY with significantly expanded Cable Discharge Event (CDE) protection.

Revolutionary design techniques incorporate Intel's Optimal Signal Processing (OSP) architecture, an ideal combination of digital signal processing and analog design techniques designed for die size, power consumption, performance, reliability, and testability.

Applications

Low-power, dual-speed network applications for the LXT971A transceiver include: network interface cards (NICs), PCMCIA cards, cable modems, set-top boxes and IP phones.

The LXT971A includes an MII with extended register capability and an optional 2.5V power supply interface for additional power savings. For 100BASE-FX fiber networks, the LXT971A is designed with a pseudo-ECL (PECL) interface for seamless integration with common industry-standard fiber modules.

Innovative Packaging

Intel delivers the LXT971A in a 7mm x 7mm plastic ball grid array (PBGA) packaging. This revolutionary package helps save board space and is available in the popular industrial temperature range that is ideal for network applications in extreme thermal environments. For flexibility in very low-power applications, the



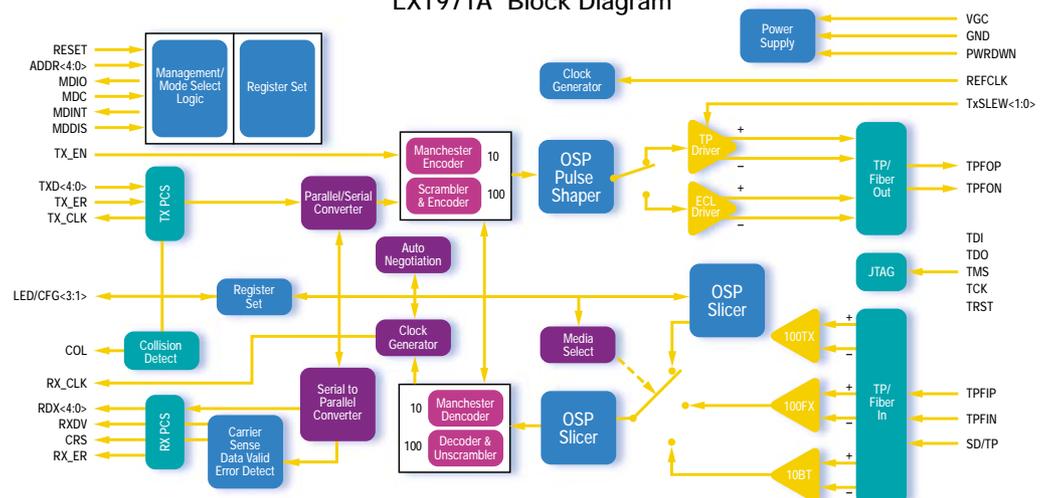
LXT971A offers a Sleep mode in addition to two Power Down modes. When the LXT971A detects an absence of energy on the twisted-pair input, it minimizes power consumption by shutting down the transmitter and placing the receiver in low-power mode.

Intel Carrier Class Ethernet

Many networking and telecom applications require high-performance Ethernet components capable of operating under harsh environmental conditions. Intel® Carrier Class Ethernet products support operation over the entire extended temperature range while providing features that increase reliability. Each device has an operation lifetime of at least 10 years with less than 100 failures per billion hours. All Intel Carrier Class Ethernet devices will be available a minimum of 5 years from product introduction.

The Intel Carrier Class Ethernet product portfolio includes solutions for Ethernet physical layer, switching and repeater technologies at a variety of speeds. Intel Carrier Class Ethernet products are ideal for applications where equipment must function reliably in uncontrolled environmental conditions such as base stations, telecom/network switches, factory floor equipment, and industrial computers.

LXT971A Block Diagram



Features

- 3.3V power supply
- 64-pin, 7mm x 7mm PBGA package
- -40°C to +85°C temperature testing
- Sleep mode
- MII interface
 - 2.5V MII interface option
- Optimal Signal Processing
- Baseline Wander Correction
- Next Page Exchange
- PECL interface
- Programmable LED drivers
- 10/100Mbps full-duplex operation
- Boundary scan (JTAG) test port

Benefits

- Helps lower power consumption
- Provides small-profile packaging
- Enables industrial applications
- Helps minimize power consumption
- Complies with industry standards
 - Additional power savings
- Helps improve data recovery and EMI performance
- Provides consistent, error-free performance
- Enables transfer of additional information during auto-negotiation
- Provides 100BASE-FX fiber-optic capability
- Enables flexible network monitoring
- Allows simultaneous transmit and receive
- Enables board-level testing of the LXT971A

LXT971A Product Family

Product Identifier	Package	Temperature Range
LXT971ABC	64-pin PBGA	Commercial 0°C to +70°C
LXT971ABE	64-pin PBGA	Extended -40°C to +85°C
LXT971ALC	64-pin LQFP	Commercial 0°C to +70°C
LXT971ALE	64-pin LQFP	Extended -40°C to +85°C

Intel® Internet Exchange Architecture

Intel® Internet Exchange Architecture (IXA) is an end-to-end family of high-performance, flexible and scalable hardware and software development building blocks designed to meet the growing performance requirements of today's networks. Based on programmable silicon and software building blocks, Intel® IXA solutions enable faster development, more cost-effective deployment, and future upgradability of network and communications systems. Additional information can be found at www.intel.com/IXA.

Intel Access

Developer's Site	developer.intel.com
Intel Internet Exchange Architecture Home Page	www.intel.com/IXA
Networking Components Home Page	developer.intel.com/design/network
Other Intel Support: Intel Literature Center	developer.intel.com/design/litcentr (800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada) International locations please contact your local sales office.
General Information Hotline	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

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