



CORTINA

Product Brief

Cortina Systems® LXT971A Dual-Speed 3.3 V 10/100 Ethernet Transceiver With Carrier Class Ethernet Support

Product Description

Demand for high-performance network applications requiring lower power is growing rapidly in today's marketplace. The Cortina Systems® LXT971A Dual-Speed 3.3 V 10/100 Ethernet Transceiver with Carrier Class Ethernet Support (LXT971A transceiver) is a low-power, single-port Fast Ethernet transceiver with significantly expanded Cable Discharge Event (CDE) protection from Cortina Systems, Inc. (Cortina™), a leading provider of Ethernet silicon solutions.

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

Revolutionary design techniques incorporate Cortina'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
- IP phones

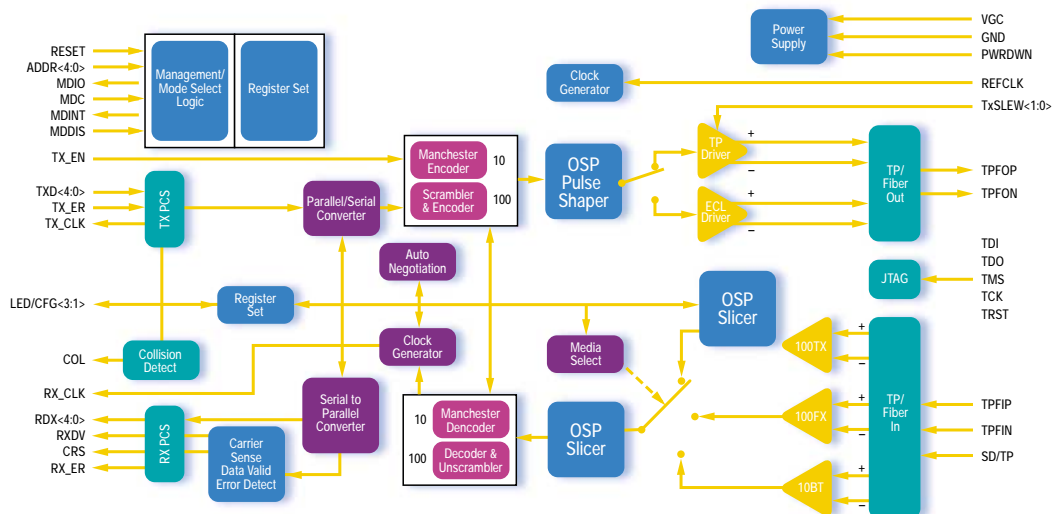
Innovative Packaging

Cortina delivers the LXT971A transceiver in a 7 mm x 7 mm 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 transceiver offers a Sleep mode in addition to two Power Down modes. When the LXT971A transceiver 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.

Cortina Carrier Class Ethernet

Many networking and telecom applications require high-performance Ethernet components capable of operating under harsh environmental conditions. Carrier Class Ethernet products from Cortina 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.

The Carrier Class Ethernet product portfolio from Cortina includes solutions for the Ethernet physical layer, as well as repeater technologies at a variety of speeds. Carrier Class Ethernet products from Cortina 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 Transceiver Block Diagram

Features	Benefits
• 3.3 V power supply	• Helps lower power consumption
• 64-pin, 7 mm x 7 mm PBGA package	• Provides small-profile packaging
• -40 °C to +85 °C temperature testing	• Enables industrial applications
• Sleep mode	• Helps minimize power consumption
• MII interface – 2.5 V MII interface option	• Complies with industry standards – Additional power savings
• Optimal Signal Processing	• Helps improve data recovery and EMI performance
• Baseline Wander Correction	• Provides consistent, error-free performance
• Next Page Exchange	• Enables transfer of additional information during auto-negotiation
• PECL interface	• Provides 100BASE-FX fiber-optic capability
• Programmable LED drivers	• Enables flexible network monitoring
• 10/100 Mbps full-duplex operation	• Allows simultaneous transmit and receive
• Boundary scan (JTAG) test port	• Enables board-level testing of the LXT971A transceiver

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)

Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers'

performance, density and flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

*Other names and brands may be claimed as the property of others.

