Intel® LXT9784

Carrier Class 10/100Base-TX Octal Ethernet Transceiver

With Intel® Carrier Class Ethernet Support

Intel®
Internet Exchange
Architecture

Product Description

The LXT9784 is an eight-port Fast Ethernet transceiver supporting IEEE 802.3 10Mbps and 100Mbps physical layer applications. It provides both a reduced media independent interface (RMII) and a serial media independent interface (SMII) for switching and other independent port applications. All network ports provide a twisted-pair interface for a 10/100Base-TX connection.

The LXT9784 has a power dissipation of 285mW per port typical at 3.0V. Network integration and maintenance are made easier through two LXT9784 features: Auto MDI/MDIX that automatically corrects crossed cables, and Hardware Integrity that can detect cable faults.

Three discrete LED driver outputs are provided for each LXT9784 port. The transceiver supports both half-duplex and full-duplex 10Mbps and 100Mbps operations, and requires only a single 3.3V or 3.0V power supply. Advanced design techniques result in very low power consumption and high reliability.

Advanced Features

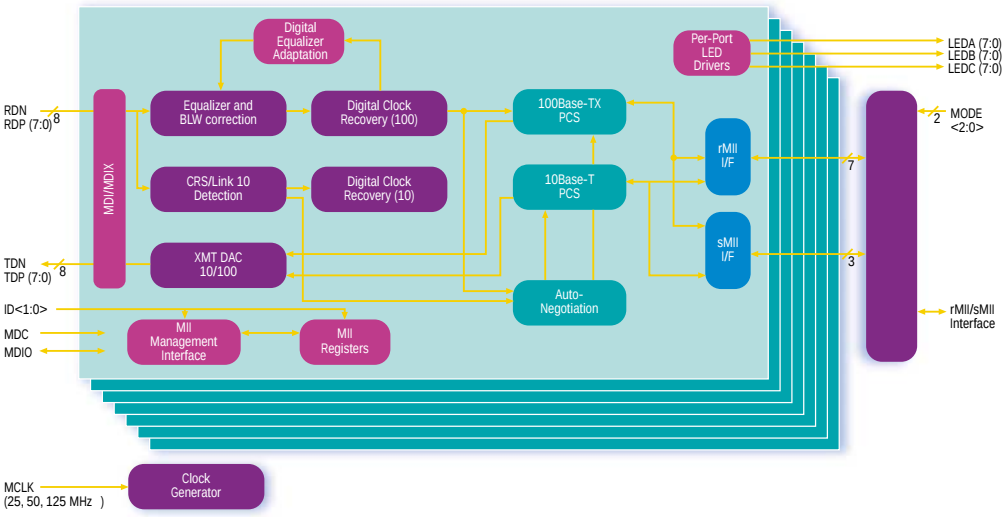
A very low-power transceiver, the LXT9784 also provides high-level Carrier Class Ethernet support. Its Auto-MDIX feature allows switch-to-switch or switch-to-NIC connectivity, regardless of whether a crossover or patch cable is used. LXT9784 also has an innovative Hardware Integrity feature that utilizes time domain reflectometry (TDR) technology to locate and report problems in the cable plant.

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.

LXT9784 Block Diagram



Features	Benefits
■ Eight independent 10/100Mbps ports – 10BASE-T – 100BASE-TX	■ Simplifies designs ■ Helps reduce system cost significantly
■ Very low power – 285mW/port typical (350mW maximum)	■ Helps reduce system cost and power
■ Multiple interfaces – Serial MII (SMII) – Reduced MII (RMII)	■ Provides system design flexibility – Lowest pin count interface – Low pin count interface
■ Baseline Wander Correction	■ Offers consistent error-free line performance
■ Auto Negotiation/Parallel Detection	■ Helps maximize line operating conditions
■ Auto MDI/MDIX	■ Provides automatic correction of crossed cables ■ Eliminates need to use different cable types for switch-to-switch vs. switch-to-NIC connections
■ Hardware Integrity (HWI)	■ Helps lower system maintenance costs
■ 10/100Mbps full-duplex operation	■ Enables simultaneous data transmit/receive
■ Extended Temperature Range	■ Is ideal for industrial or harsh telecommunications environments

LXT9784 Product Family

Product Identifier	Package	Temperature Range
LXT9784BC	3.0V or 3.3V	Commercial 0°C to +70°C
LXT9784BE	3.3V	Extended -40°C to +85°C

Applications

- Multi-port Network Interface Cards (NICs)
- Storage Area Networks (SANs)
- Enterprise switches
- Workgroup switches
- Ethernet backplane connectivity
- Industrial networking equipment

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 ww.intel.com/IXA.

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