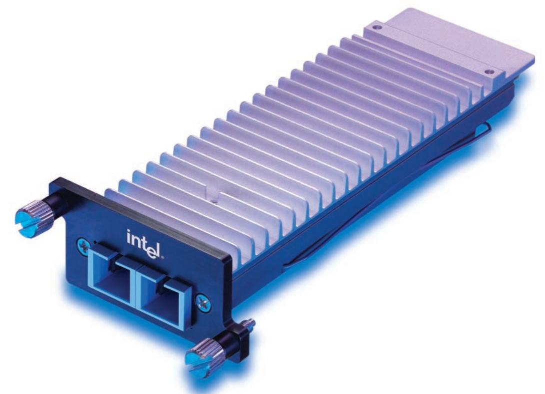
Intel® TXN17401

10Gbps Optical Serializer/Deserializer XENPAK Transceiver

Product Overview

The Intel® TXN17401 10Gbps Serializer/ Deserializer (SerDes) XENPAK transceiver is designed to provide an IEEE802.3ae, draft 4.0-compliant 10.3Gbps interface between the photonic physical layer and the electrical section layer. The module is comprised of an optical transmitter and receiver pair integrated with Attachment Unit Interface (XAUI)-to-serial conversion.



The TXN17401 includes Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA), and Physical Medium Dependent (PMD) functions. The transmitter section decodes four 8B10B encoded channels at 3125Mbps from a XAUI parallel data bus, performs 64B/66B scrambling, and multiplexes the result into a 10.312Gbps optical signal launched into a single-mode optical fiber pigtail.

The receiver section demultiplexes a single 10.3125Gbps optical signal and converts it to four channels of 3125Mbps XAUI. The receiver includes a photodiode, transimpedance amplifier, clock recovery, decision circuit and demultiplexer, and operates over both the 1.3µm and 1.5µm bands.

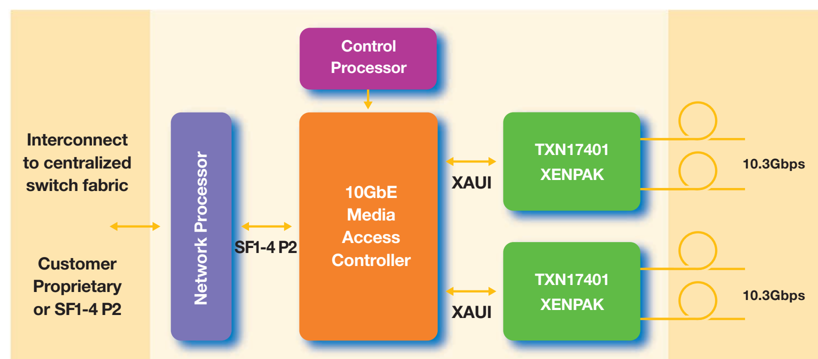
The transponder is assembled in a Multi-Source Agreement (MSA)-compatible package (4.8 inches long, 1.4 inches wide, and 0.7 inches high). The heat sinking was designed for 50°C ambient temperature with 200 linear feet per minute airflow. The electrical interface is through a XENPAK MSA-compliant 70-pin board edge connector, with optical connections made using standard SC-UPC optical connectors.

The 10GBASE-LR transceiver is intended for link spans up to 10km, and uses a 1.3µm Distributed Feedback (DFB) laser source. An IEEE802.3ae and XENPAK MSA compliant Management Data Interface (MDIO) is also included.

Intel's automated manufacturing process produces transmitter and receiver modules that are smaller and have excellent optical performance over temperature. This process is easily scalable to support high volume requirements with repeatability and high quality. Intel brings these modules together with it's SerDes and PHY components to produce an optimized, high performance XENPAK solution.

Key Applications

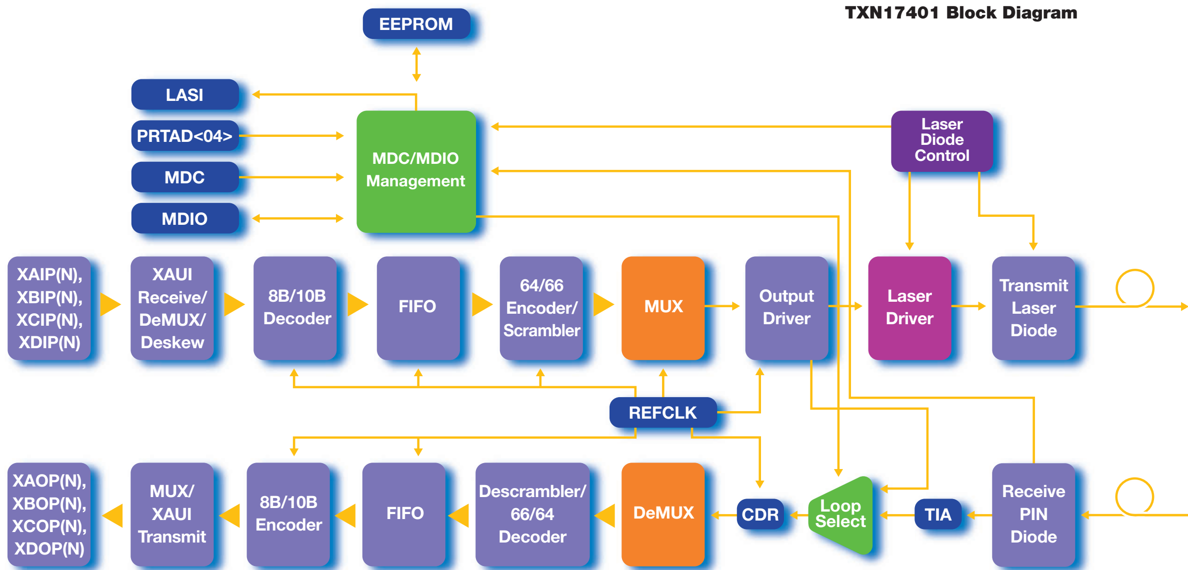
- Enterprise switches and routers
- Core-routers



10GbE Enterprise Line Card
Modular Switch/Router Application

intel®

TXN17401 Block Diagram



Features / Benefits

Features	Benefits
■ Hot pluggable front faceplate	■ Gives the system designer ability to install and change transceivers both in manufacturing and in the field resulting in flexible designs and lowered inventory cost
■ Small cross section	■ Enables up to eight 10Gbps ports on a single line card
■ Complies with XENPAK MSA	■ Improves time-to-market as a standardized, turnkey solution
■ Intel miniature un-cooled transmitter and receiver	■ Excellent performance at temperature

Support Collateral/Tools

Item	Description	Order Number
Evaluation Board	■ TXN17401 Evaluation Board	TXNEB17401

Intel Access

Developer's Site	http://developer.intel.com
Networking Components Home Page	http://developer.intel.com/design/network
Other Intel Support: Intel Literature Center	http://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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