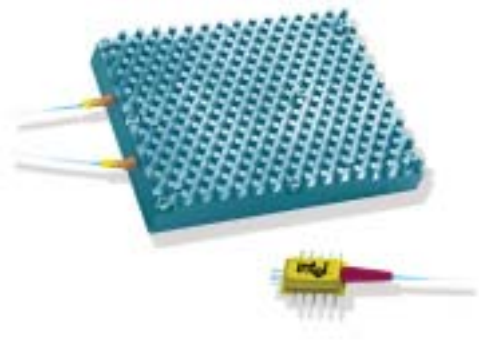
Intel® TXN13210/11/14

Low Power Dissipation Small Form Factor 10Gbps Uncooled Optical Transceivers

The Intel® TXN13210/11/14 Small Form Factor 10Gbps Optical Transceivers are designed to provide an interface between the photonic physical layer and the electrical layer in 10Gbps network applications. The small footprint and low power dissipation of the transceiver makes it ideal for cost-effective, high-performance client-side interfaces in telecom as well as core-enterprise switches, routers, multi-service provisioning platforms and optical transport solutions.

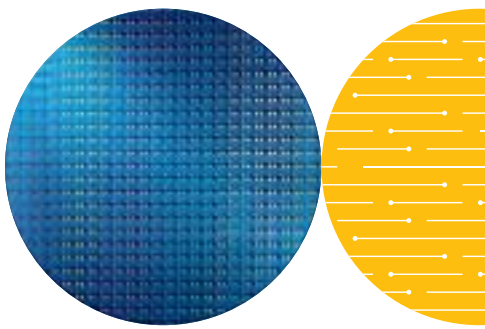
The TXN13210/11/14 transceiver family provides an optical transmitter and receiver pair integrated with an electrical multiplexer (MUX) and demultiplexer (DeMUX). The transceiver multiplexes/demultiplexes 16 channels from a differential Low-Voltage Differential Signal (LVDS) parallel data bus into a serial optical signal running at line-rates of either 9.953 or 10.3Gbps.

The transmitter contains an uncooled 1310nm Distributed Feedback (DFB) laser with integrated laser-driver, launched into a single-mode optical fiber pigtail. A closed control-loop ensures optimal performance and stable output power over the operating temperature range of the device. The receiver includes a PIN photodiode and transimpedance amplifier, which operate over both the 1.3µm and 1.5µm bands.



The TXN13210/11/14 transceiver family can be configured to supply a single- or dual-rate SONET/SDH or 10Gb Ethernet interface, with clock jitter filtering. The module satisfies link distances from 0 to 10km. Various heat sink and optical connector options are available to satisfy a range of applications. The transceiver is assembled in a Multi-Source Agreement (MSA)-compatible package that is a minimum size of 3.0" L x 2.2" W x 0.43" H.

The Intel TXN13210/11/14 family of transceivers is designed to be compliant with Telcordia GR-253 requirements for OC-192 SONET interfaces and draft 5.0 of IEEE 802.3ae 10GBASE-L 10Gb Ethernet specifications. The TXN13210/11/14 family is also fully compliant to the 300-pin MSA for 10 Gigabit transceivers.

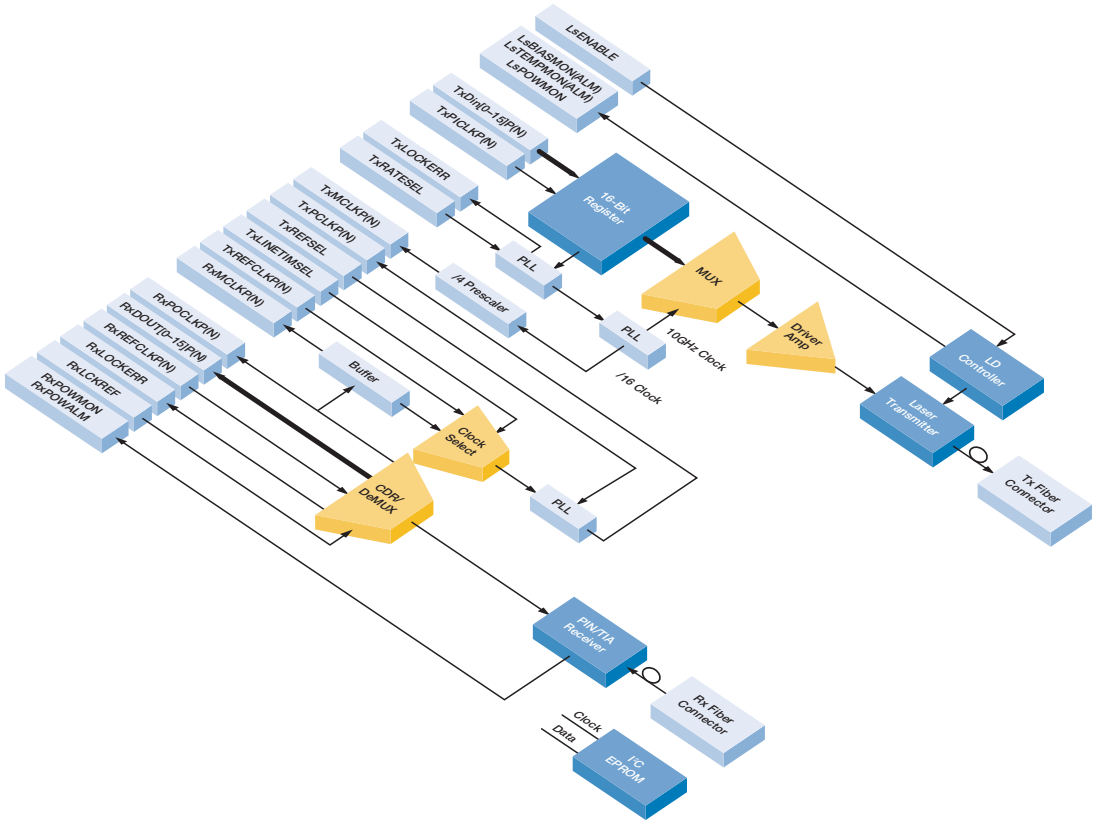


Key Applications

- Multi-port line cards
- Optical cross-connects
- Add/drop multiplexers
- Dense Wavelength Division Multiplexing (DWDM) terminals
- Other Wavelength Division Multiplexing (WDM) and non-WDM metro system equipment
- Optical test equipment

Intel Advantage

The Intel TXN13210/11/14 Small Form Factor Optical Transceivers provide a turnkey solution that improves time-to-market, helps reduce engineering time, can reduce inventory, and allows for multiple ports on a single line card. Intel's uncooled integrated miniature optics deliver an advantage in both cost and capacity. Industry leading jitter, temperature and low power dissipation (4w normal, 4.8w max. approx.) makes the TXN13210/11/14 an optimal solution for a wide array of applications.



Feature	Benefit
Single product design with various transmitter options accommodates links from 0 to 10km	Delivers product compatibility across various reach requirements, simplifying design-in and time-to-market.
Intel's lowest power optical tranceiver 4w(normal), 4.8w(maximum)	Enables multi-port low power dissipation line cards.
Dual-rate functionality	Single part number for multiple applications alleviates carrying inventory with multiple variants, allows faster design-in, and helps reduce time-to-market.
Small, low-profile 2.2" x 3.0" form factor	Enables multiple 10Gbps ports on a single line card.
On board jitter-filter	Provides industry leading jitter performance.
A range of integrated heat sinks options	Designed for a range of airflow and temperature conditions, including flat-top variants for custom heat sink designs.
Laser bias, laser temperature, laser power, and receiver power monitors	Eases troubleshooting of link status.
Receiver (Rx) loss of signal, Rx and Transmitter (Tx) loss of lock alarms and laser fault alarms	Allows monitoring of receiver and transmitter signal loss.
No power supply sequencing required	Simplifies implementation.
300-pin MSA-compliant form factor and configuration	Industry-standard form factor allows maximum flexibility when designing in optical transceivers.

Intel Access

Developer Web Site	developer.intel.com
Networking Components Home Page	developer.intel.com/design/network
Other Intel Support: Intel Literature Center	developer.intel.com/design/litcentr 800 548-4725 7 am–7 pm CST (USA and Canada)
General Information Hotline	800 628-8686 or 916 356-3104 5 am–5 pm PST

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