



## Product Brief

Intel® TXN21125,  
TXN22125, and TXN31115

Quad-Rate Small Form  
Factor Pluggable (SFP)  
Optical Transceivers

Optical Enterprise and Storage  
Solutions

# Intel® TXN21125, TXN22125, and TXN31115

## Quad-Rate Small Form Factor Pluggable (SFP) Optical Transceivers

Intel® optical components are modular building blocks that enable networking equipment manufacturers to create standards-based products with shorter time to market and reduced development costs. Developers can use these opto-electronic components to build optical network solutions to meet a variety of high-bandwidth requirements in Optical Transport Network, Storage, or Ethernet networks.



### Product Overview

The Intel® TXN21125, TXN22125, and TXN31115 Quad-Rate Small Form Factor Pluggable (SFP) Optical Transceivers are Multi-Source Agreement (MSA) compatible. They provide integrated duplex data links for bi-directional communication over multimode and single mode optical fiber. The transceiver modules are designed for high-speed Fibre Channel data links supporting up to 4.25Gbps (4X Fibre Channel rate). These rate-agile transceiver modules can also operate at the 1X and 2X Fibre

Channel rates (1.0625Gbps and 2.125Gbps) and the Gigabit Ethernet rate (1.25Gbps) without the use of a rate-select pin.

The Intel® 4/2/1G SFP optical transceivers use 850 and 1310 nanometer wavelength light sources that support link distances up to 10km. These SFP modules have an LC Duplex receptacle interface compatible with the industry-standard LC optical connector. The 4/2/1G modules are Class 1 laser product compliant with FDA Radiation Performance Standards (21 CFR Subchapter J) and international safety standard IEC 60825 and IEC 60950

### Intel Advantage

The Intel® 4/2/1Gbps SFP Optical Transceiver family is the newest addition to Intel's extensive product line of optical transceivers for enterprise and storage applications. Intel's worldwide manufacturing operation provides a reliable, high-volume supply of quality products with excellent performance.

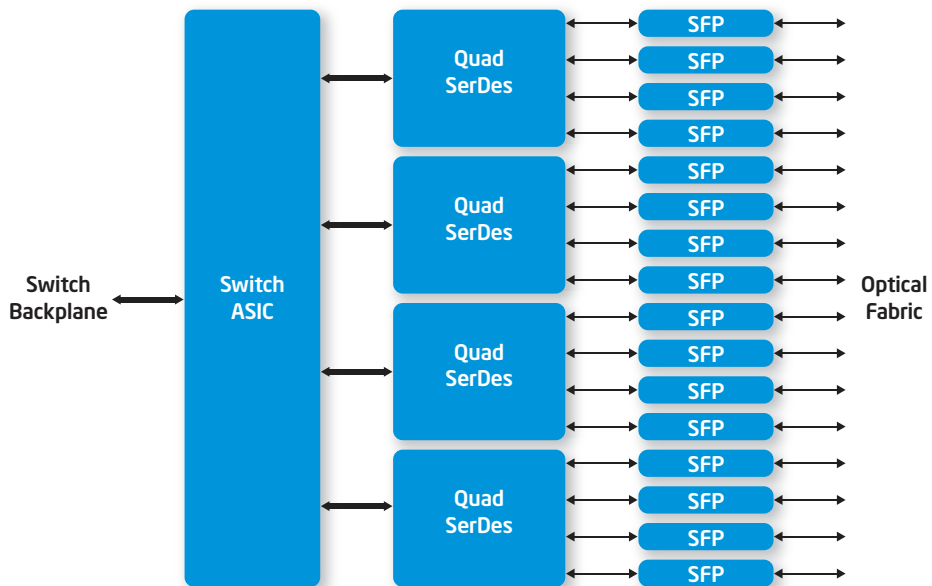
### Product Highlights

- Compliant with Fibre Channel FC-PI standard
- 4.25/2.125/1.0625Gbps Fibre Channel compliant and 1.25Gbps Ethernet compatible
- Compatible with the SFP MSA specification
- Hot-pluggable
- 850nm VCSEL, 1310nm Fabre-Perot and 1310nm DFB
- TTL Loss of Signal (LOS) Output
- Transmitter Disable Input
- AC-coupled CML electrical Input/Output interface
- Class 1 Laser Safety product
- IEC 60825 and IEC 60950 safety certified
- Single +3.3V power supply
- Digital Diagnostics Monitoring support (SFF-8472)
- Designed and verified as RoHS compliant

### Key Applications

- Fibre Channel Switches
- Fibre Channel Host Bus Adapters (HBAs)

16-Port Switch Line Card



**Features**

Multi-rate support for 4/2/1 G FC and GbE standards

Advanced EMI performance

Extended operating temperature range

Advanced ESD protection

Bail de-latch module release mechanism

**Benefits**

Streamline the module supply chain through the use of a single module to cover all FC data rates. Compatible with 1 GbE link.

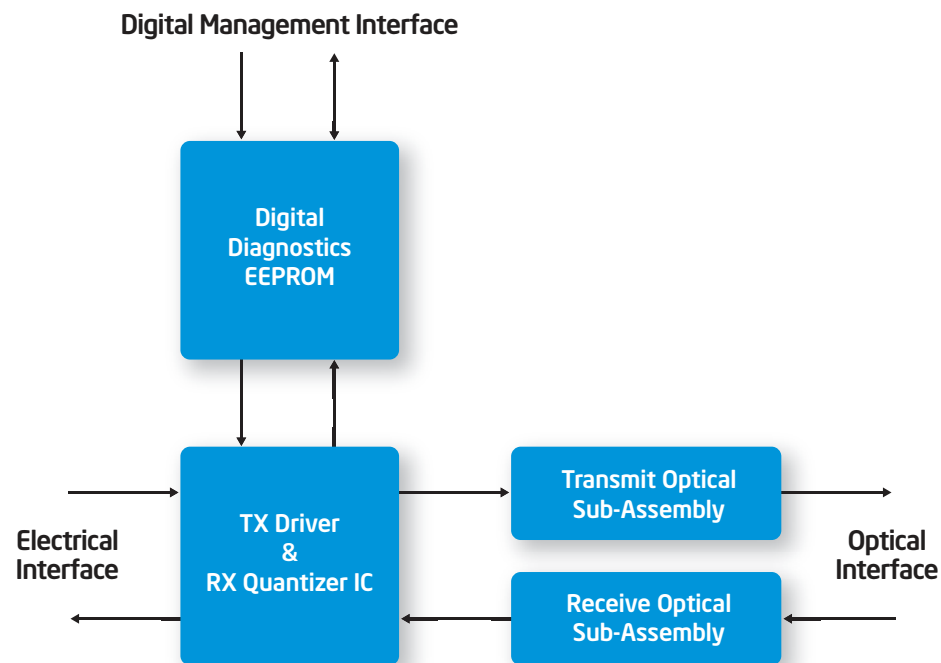
Reduce overall system noise in high-port-density configurations

Meets stringent operating temperature requirements of Fibre Channel applications

Avoid ESD damage due to mishandling

Robust construction designed for high-port-density host board layout

SFF Optical Transceiver Internal Block Diagram



## Support Collateral and Tools

The following documents are available only subject to NDA

Item	Description	Order Number
Evaluation Board	Intel® TXNEB31115 SFP Evaluation Board User Guide	Contact Local Sales Representative

## Available Products

Part Number	Data Rate	Fiber Mode	Laser Wavelength	Link Distance	Operating Temperature
TXN31115D200000	Fibre Channel 4/2/1Gbps	Multimode	850nm	150m	-20 to 85°C
TXN21125D000000	Fibre Channel 4/2/1Gbps	Single Mode	1310nm	4Km	-30 to 85°C
TXN22125D000000	Fibre Channel 4/2/1Gbps	Single Mode	1310nm	10Km	-30 to 85°C

## Intel Access

Hardware Design Resource Center	<a href="http://developer.intel.com">http://developer.intel.com</a>
Networking Components Home Page	<a href="http://www.intel.com/netcomms/index.htm">http://www.intel.com/netcomms/index.htm</a>
Literature Ordering Center	<a href="http://www.intel.com/design/literature.com">http://www.intel.com/design/literature.com</a> (800) 548-4725 7am - 7pm CST (USA and Canada) International Locations please call your local sales office.
General Information Hotline	(800) 628-8686 or (916) 356-3104 5am - 5pm PST

## For more information, visit the Intel Web site at: [developer.intel.com](http://developer.intel.com)

### UNITED STATES AND CANADA

Intel Corporation  
Robert Noyce Bldg.  
2200 Mission College Blvd.  
P.O. Box 58119  
Santa Clara, CA 95052-8119  
USA

### EUROPE

Intel Corporation (UK) Ltd.  
Pipers Way  
Swindon  
Wiltshire SN3 1RJ  
UK

### ASIA-PACIFIC

Intel Semiconductor Ltd.  
32/F Two Pacific Place  
88 Queensway, Central  
Hong Kong, SAR

### JAPAN

Intel Japan (Tsukuba HQ)  
5-6  
Tokodai Tsukuba-shi  
300-2635 Ibaraki-ken  
Japan

### SOUTH AMERICA

Intel Semicondutores do Brasil LTDA  
Av. Dr. Chucri Zaidan, 940-10o andar  
04583-904 Sao Paulo, SP  
Brazil

Intel and the Intel logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right. Intel products are not intended for use in medical, life-saving or life-sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them.

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

Copyright © 2006 Intel Corporation. All rights reserved.

1106/S2D/SI/PDF

Please Recycle

300454-004

