Intel® IXF18102

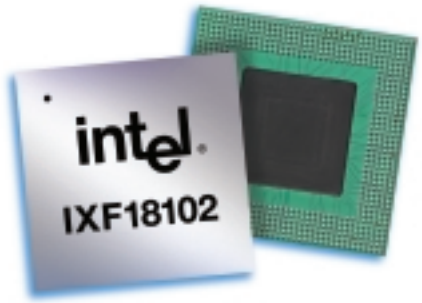
10Gbps Physical Layer Device for STS-192c/STM 64c POS/GFP

Product Description

The Intel® IXF18102 is a highly integrated framer solution for STS-192c/STM 64c port applications. The IXF18102 supports various modes of operation for transport of HDLC frames (POS) or Generic Framing Procedure (GFP) packet formatting.

Internal mapping engines provide the required formatting and packet data maintenance into the STS-192c/STM 64c SONET/SDH frame payload. A data-over-Fiber packet mapping mode is supported for test equipment and test functionality verification within a system. The GFP mapping engine can be connected directly to Forward Error Correction (FEC) or OTN digital wrapper devices for GFP, per G.709 specifications.

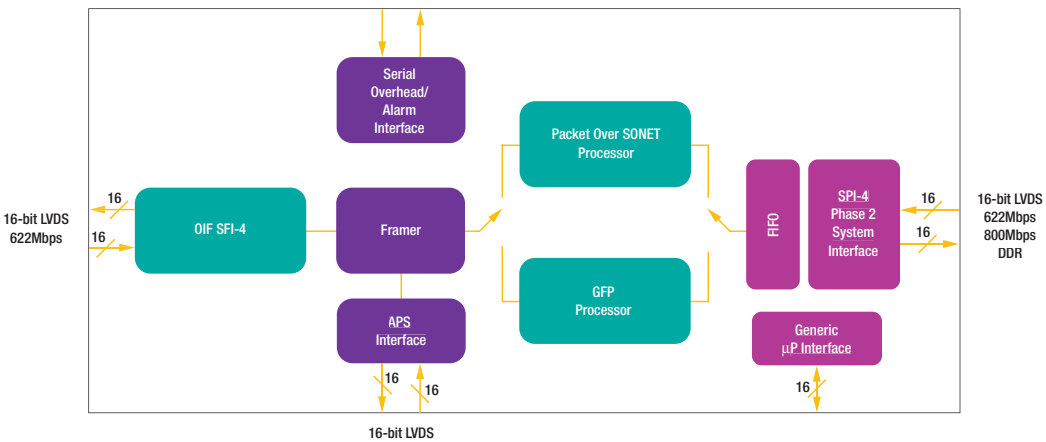
The system interface is 16 bits wide, features 622Mbps–800Mbps Double Data Rate (DDR) clocking and supports the industry-standard System Parallel Interface Level 4 (SPI-4) Phase 2. The SPI-4 Phase 2 interface is Low Voltage Differential Signaling (LVDS), which produces fewer connection concerns than previous 64-bit High–Speed Transport Layer (HSTL) interfaces.



On the line side, the IXF18102 supports the OIF Serdes Framer Interface Level 4 (SFI-4) interface, which is 16 bits wide with 622Mbps data rate.

The IXF18102 supports Automatic Protection Switching (APS) for SONET/SDH. Various types of loop backs such as line remote, line local, system remote as well as system local and Synchronous Payload Envelope (SPE) payload test are supported for general development functionality test and debug.

Intel® IXF18102 Block Diagram



Intel® IXF1810x Family of 10Gbps Physical Layer Devices—High Level Overview

Intel's family of 10 Gigabit framer devices provide the broadest support for 10Gbps solutions. The protocols supported are STS-192c POS, 10 Gigabit Ethernet WAN, 10 Gigabit Ethernet LAN, and GFP framing. The table below summarizes the high-level feature set:

Part Number	Feature Set	
IXF18101	■ STS-192c/STM 64c POS ■ GFP ■ 10 GbE LAN and WAN with MAC, PCS, and WIS	■ SFI-4/XSBI line side interface ■ SPI-4 Phase 2 system-side interface
IXF18102	■ STS-192c/STM 64c POS ■ GFP	■ SFI-4 line side interface ■ SPI-4 Phase 2 system-side interface
IXF18103	■ 10 Gigabit Ethernet LAN and WAN PHY with MAC, PCS, and WIS	■ XSBI line side interface ■ SPI-4 Phase 2 system-side Interface
IXF18104	■ 10 Gigabit Ethernet LAN PHY with MAC, and PCS	■ XSBI line side interface ■ SPI-4 Phase 2 system-side Interface

All these devices are pin-, footprint-, and register set-compatible. This allows customers to design one line card for multiple applications, providing cost savings over a single line card with other unsupported features.

The IXF18102 is designed to provide a single chip solution for all STS-192c/STM 64c framing requirements for metro and the core networks, and offers the following features and benefits:

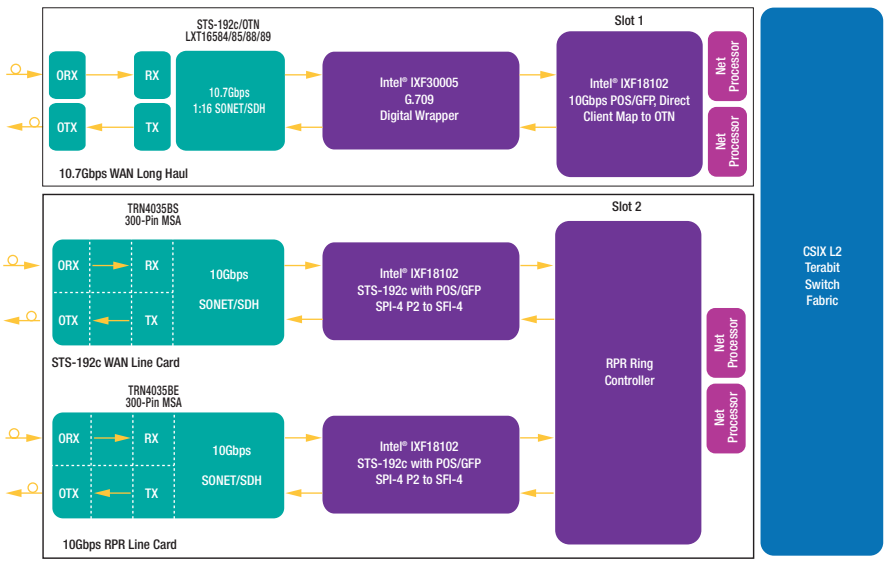
Features	Benefits
■ Two modes of operation: STS-192c/STM 64c POS STS-192c/STM 64c GFP	■ Device is optimized to support POS and GFP at STS-192c/STM 64c
■ SFI-4	■ SFI-4 is widely deployed as the interface for OC-192c/SDH 64c optics modules
■ SPI-4 Phase 2	■ Helps minimize pin count and allows interface architecture to be scaled beyond 10Gbps ■ LVDS I/O, which has improved signal integrity versus HSTL implementations ■ It is independent of the type of data protocol being transferred
■ Automatic protection switching	■ Provides facilities protection and redundancy using working and protection IXF18102 devices

Key Applications

- Terabit Switch/Router Platforms
- Edge and Core Router Platforms
- SONET/SDH Add/Drop Multiplexers
- Multi-Service Provisioning Platforms
- 10GbE PMON in Long-Haul Transport
- Metro POP Ethernet Switches
- Storage Area Networks
- Network Attached Storage
- Emerging Resilient Packet Ring (RPR)
- Dynamic Packet Transport applications

Intel® IXF18102 Advantage

- Supports advanced SPI-4 Phase 2 interface
- Supports GFP, which allows the transport of data center protocols such as FICON, ESCON, and Fiber Channel-Over-Transport networks
- Footprint-compatible with the Intel® IXF1810x device family, to provide cost reduction for customers who may only need a subset of the IXF18101 functionality
- Optimized for OC-192c/SDH 64c line card applications



Support Collateral/Tools

Item	Description	Order Number
■ IXF18102	10Gbps Physical Layer Device for STS-192c/STM 64c POS/GFP Technical Product Brief	249943
■ IXF18102	10Gbps Physical Layer Device for STS-192c/STM 64c POS/GFP Short Form Specifications Preview	273605
The following document is available only subject to NDA		Contact your local rep
■ IXF18102	10Gbps Physical Layer Device for STS-192c/STM 64c POS/GFP Data Sheet	

Intel Advantage

Intel is a leading supplier of communications building blocks, adding value at many levels of integration. Through continuous innovations and advancements in Ethernet connectivity and processing in the network, Intel is delivering, along with its customers and developer community, a wide choice of solutions that enable faster time-to-market, longer time-in-market and increased revenue opportunity.

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