

# Intel® LXT16706/16707 SerDes Chipset



## Product Description

The Intel® LXT16706 and LXT16707 form a high-performance Multiplexer/Demultiplexer (MUX/DeMUX) chipset for use in SONET OC-192 and SDH STM 64 telecommunications systems, Optical Transport Network (OTN) systems with Forward Error Correction (FEC), submarine systems, and fiber optic test equipment.

The Intel® LXT16706/07 chipset is manufactured using a well-proven SiGe BiCMOS technology that offers the performance, stability, and reliability customers require for optical communication systems.

The devices are operated from a single +3.3V or dual +1.8/+3.3V power supply. The chipset has a low power dissipation of 1.7W (when operated from a dual power supply).

The LXT16706 features an integrated Limiting Amplifier (LIA) with low input sensitivity, a Clock and Data Recovery unit (CDR) and a 1:16 DeMUX.

The LXT16707 features a 16:1 transmitter with integrated clock generation, Phase Locked Loop (PLL) circuits, and MUX. The high output swing of the transmitter ensures compatibility with a wide range of laser drivers.

The LXT16706/07 chipset features two concepts for timing alignment of clock and data signals coming from the framer. The first, Dynamic Phase Alignment is based on integrated PLLs to eliminate any skew between clock and data signals between ASIC and MUX. The continuous handling of round trip delay variations by the source synchronous clocking ensures easy external optimization of jitter. The second is based on a 2-bit FIFO shift register to ensure critical timing alignment between clock and data signals.

In order to facilitate board design, the LXT16706/07 chipset has been equipped with bit flip and bit inversion. These features flip the polarity and/or position of the individual pins to enable flexible PCB routing.

The devices allow operation at any line rate between 9.95 to 10.71Gbps. This provides a flexible module with reduced design and production costs.

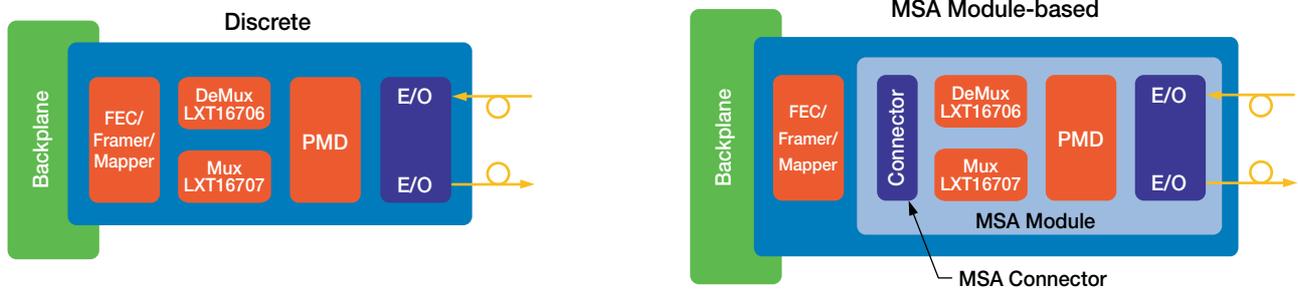
## Features

- Combined power dissipation of 1.7W
- Integrated LIA with low input sensitivity
- Single or dual power supply
- Multirate 9.95–10.7Gbps
- 132-pin (13x13mm) PBGA package
- OIF SFI-4 compliant interface
- 2-bit FIFO and Dynamic Phase Alignment

## Benefits

- Ideal for MSA Module applications where power is key
- Helps eliminate the need for an external LIA therefore reducing cost
- Helps increase design flexibility and ensures lowest possible power dissipation
- For SONET and OTN transfer rates; seamless shift between rates
- Small physical form factor simplifies design and helps reduce board space
- Ensures interoperability between SerDes chips and framer
- Ensures alignment of data and clock signals coming from the framer

## Optical Line Card Block Diagram



### Key Applications

- Optical line cards for SONET OC-192, SDH STM 64, OTN, and Gigabit Ethernet
- Optical test equipment
- MSA modules for SONET OC-192, SDH STM 64, OTN, and Gigabit Ethernet
- FEC systems

### Support Collateral/Tools

Item	Description	Order Number
LXT16706/07	SerDes Chipset Data Sheet	Contact your local rep
LXD90706/07	Evaluation Board Data Sheet	Contact your local rep

### Intel Advantage

- Providing world-class optical components and solutions for multi-protocol and multi-rate networks
- Using leading-edge technologies and manufacturing capabilities to provide high-volume, low-cost optical offerings
- Wide range of optical solutions that accelerate services deployment, reduce costs, and ease migration to higher bandwidth

### Intel Access

Developer Web Site	<a href="http://developer.intel.com">http://developer.intel.com</a>
Networking Components Home Page	<a href="http://developer.intel.com/design/network">http://developer.intel.com/design/network</a>
Intel Literature Center	<a href="http://developer.intel.com/design/litcentr">http://developer.intel.com/design/litcentr</a> (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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