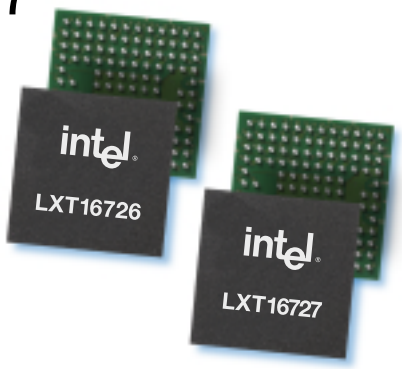
Intel® LXT16726/16727

Serializer/Deserializer Chipset



Product Description

The Intel® LXT16726 and LXT16727 form a high-performance multiplexer/demultiplexer (MUX/DeMUX) chipset for use in SDH STM 64 and SONET OC-192 telecommunications systems, Optical Transport Network (OTN) systems with Forward Error Correction (FEC), submarine systems, 10 Gigabit Ethernet systems, and fiber-optic test equipment.

The Intel® LXT16726/27 chipset is manufactured using a well-proven silicon bipolar 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 1.8W (when operated from a dual power supply).

The LXT16726 features an integrated Limiting Amplifier (LIA) with high input sensitivity, a Clock and Data Recovery unit (CDR), and a 1:16 DeMUX.

The LXT16727 features a 16:1 transmitter with integrated clock generation, Phase Locked Loop (PLL) circuits, and 16:1 MUX. The integrated transmitter ensures simple board design. The high output swing of the transmitter ensures compatibility with a wide range of laser drivers.

The LXT16726/27 chipset features two concepts for timing alignment of clock and data signals. The first, Dynamic Phase Alignment (DPA), 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 scheme is based on a 9-bit FIFO to ensure critical timing alignment between clock and data signals. When the latter scheme is used, an integrated PLL together with an external VCXO can be used to clean the reference clock coming from the framer. In order to support multiple line speeds without using external selection components, the transmitter has been equipped with three VCXO clock inputs.

In order to facilitate board design, the LXT16726/27 chipset has been equipped with bit flip and bit inversion. These features flip the polarity and/or position of the individual data I/Os to ensure flexible PCB routing.

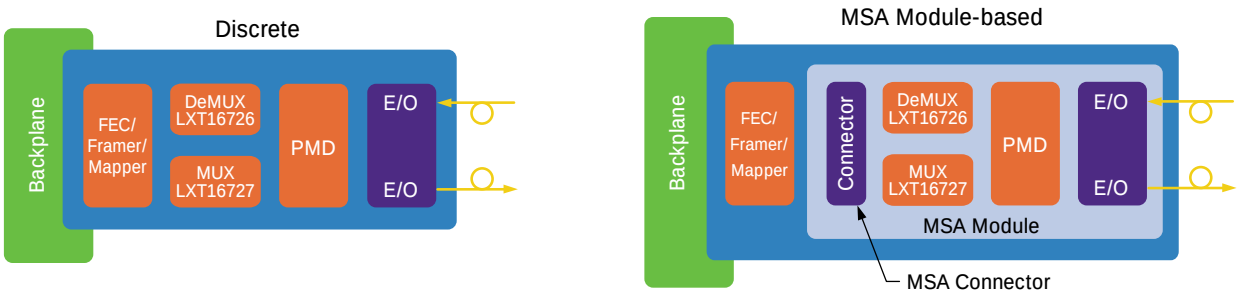
The devices allow operation at any line rate between 9.95 and 10.71Gbps. This provides for a flexible module with reduced design and production costs.

Features	Benefits
▪ Combined power dissipation of 1.8W	▪ Ideal for MSA Module applications where power is key
▪ Integrated LIA with high input sensitivity	▪ Helps eliminate the need for an external LIA therefore reducing cost
▪ Single or dual power supply	▪ Helps increase design flexibility and ensures lowest possible power dissipation
▪ High output swing	▪ Ensures compatibility with a wide range of laser drivers
▪ Multirate 10 –10.7Gbps	▪ For SONET and OTN transfer rates; seamless shift between rates
▪ 132-pin (13 x 13 mm) PBGA package	▪ Small physical form factor simplifies design and helps reduce board space
▪ Three VCXO clock inputs	▪ Ensures seamless support for multiple line speeds without using external components
▪ OIF SFI-4 compliant interface	▪ Ensures interoperability between SerDes chips and framer
▪ 9-bit FIFO and DPA	▪ Ensures alignment of data and clock signals coming from the framer

Key Applications

- Optical line cards for SDH STM 64, SONET OC-192, OTN, and 10 Gigabit Ethernet
- Optical test equipment
- MSA modules for SDH STM 64, SONET OC-192, OTN, and 10 Gigabit Ethernet
- FEC systems

Optical Line Card Block Diagram



Intel Advantage

Intel is a leading supplier of communications building blocks, adding value at many levels of integration. Through continuous innovations and advancements in 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.

Support Collateral/Tools

Item	Description	Order Number
■ LXT16726	SerDes Chipset Data Sheet	250838
■ LXT16727	SerDes Chipset Data Sheet	250837
■ LXD90726/727	Evaluation Board Data Sheet	251067

Intel Access

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