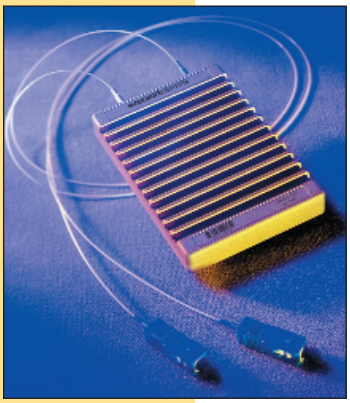
networkelements

Optical Networking Modules

10Gb/s Physical Layer (PHY) Modules

For SR and VSR SONET/SDH, POS, and 10GbE applications



The ONM10PHY006 and ONM10PHY020 are highly integrated 10Gb/s modules designed for use in a variety of 10Gb/s DWDM, SONET/SDH including FEC, and Ethernet LAN and WAN applications requiring optical lengths up to 600m and 2km respectively. Utilizing Fabry-Perot serial optics, these modules provide network equipment manufacturers a cost effective integrated solution for reduced time to market and lower system costs. The modules perform all of the necessary optical-to-electrical and electrical-to-optical conversion, clock and data recover, transmit clock multiplication, and serialization and deserialization functions for a complete physical layer solution.

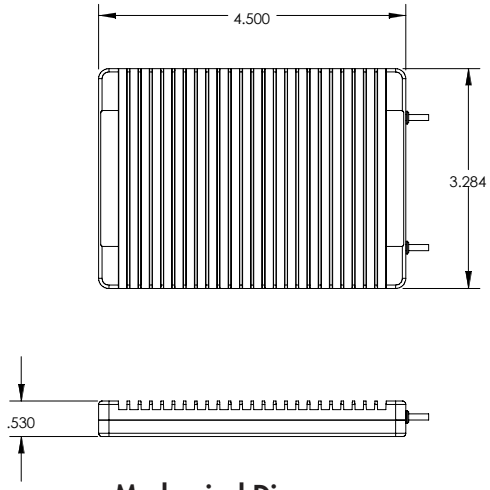
An optional transmit jitter filter simplifies system design by eliminating the need for a SONET quality reference clock in order to insure SONET compliant timing and jitter performance.

On the system side, the modules provide an OIF 16-bit parallel LVDS interface through an MSA compatible 300-pin connector. An integrated microprocessor and EEPROM provides enhanced management of the optical performance and monitoring of user-defined module parameters. A comprehensive set of Application Program Interface (API) routines is provided to greatly simplify the system software design effort.

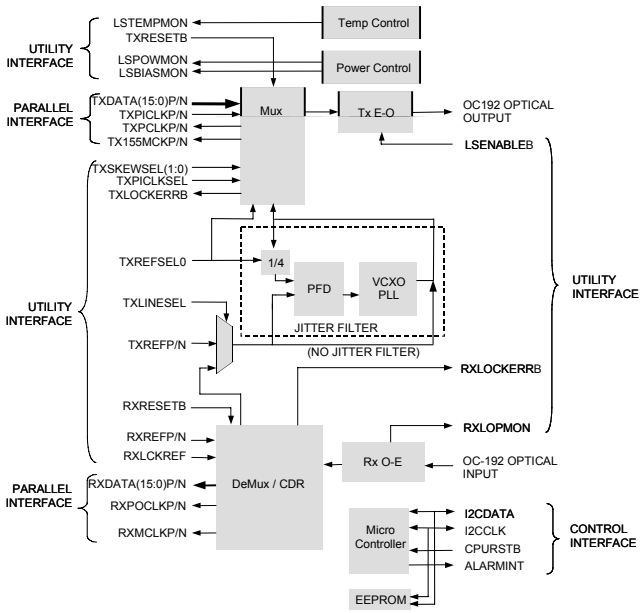
Innovative optical networking modules provide maximum integration, speed and functionality while reducing time-to-market for networking equipment vendors.

FEATURES
• 9.9-10.7Gb/s serial optical data rate — SONET/SDH including FEC — POS, 10GbE, IP
• 1310nm serial optics — 2km reach - ONM10PHY020 — 600m reach - ONM10PHY006
• ITU-G.691 eye mask compliant
• 16-bit parallel LVDS OIF-SFI-4 system interface
• 300-pin Berg connector with MSA compatible pin-out
• Tx reference selectable between source or line timing
• Optional reference clock jitter filter for SONET OC-192 data rate
• Control, monitoring, and alarm functions through I^2C serial bus control interface — Laser on/off control — Serial and version numbers, date of manufacture, etc. — Monitor loss of signal, laser temperature, laser bias, receiver power, loss of lock, etc. — Set user-defined parameter alarm limits

The ONM10PHY modules provide a compact, low-cost, high-bandwidth interface for use in high-performance switch routers, edge equipment, campus backbone switches, servers, and aggregators.



Mechanical Diagram



Functional Diagram

Class 1 Laser Product

About Network Elements

Network Elements, leading the drive to 10Gb/s and 40Gb/s modular products, is developing plug and play modules integrating innovations in high-speed optics and electronics with wirespeed multiprotocol ASICs. These products dramatically enhance cost-performance and time-to-market for our customers. The ONM10 product family is part of Network Elements' Optical Networking Module product offerings of cost-effective physical, link, and network layer interface modules. The ONM40 product line addresses 40Gb/s modular products. Products address a broad spectrum of New Generation Internet infrastructure applications and markets.

For More Information

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