

OptiML™ Micro-optics for Optical Communication



DigitalOptics Corporation™ (DOC) meets the market demands for faster, more efficient communication, collaboration, media and entertainment by creating micro-optic solutions designed for optical communication applications. As these markets grow, so does the requirement for greater network bandwidth. To satisfy this demand, technologies need to deliver greater performance with reduced form factors and lower operating costs.

Parallel Optics for High-Speed Networks

The demand for higher data rates is driving data centers worldwide to upgrade their optical networks, pushing the industry to adopt 40 and 100 Gbps Ethernet speed rates. The short reach standard for this market is parallel optics.

OptiML parallel optical solutions use patented lens technology to increase bandwidth, minimize back reflection and provide in-line source monitoring. In-line source monitoring technology is built into the lens array to ensure consistently high-performance—a necessary feature as data rates move to 40 and 100GB. This sophisticated monitoring technology examines each network channel in real-time to determine changes in performance. It taps off a small part of each laser signal and delivers it to a detector for real-time monitoring of power levels. These detectors then provide the information necessary to adjust the drive currents for optimal performance.

OptiML parallel optical solutions include 1x12 Transmitters, 1x12 Receivers, 4+4 Transceivers (for QSFP applications) and 12+12 Transceivers (for CXP applications). All can be outfitted with the monitoring lens technology.

OptiML parallel optical solutions provide a consistent, precise and environmentally stable medium for seamless high-speed data communications, enabled by the use of glass substrates. The glass substrate remains stable over a wide range of thermal, chemical and mechanical conditions, making it superior to plastic injection-molded lenses, which can degrade or distort in high-temperature conditions. The lenses are made from glass, making them compatible with high-temperature reflow processes.



Transmitter 1x12 with Monitor (Example)

Dimensions	3.2 x 1.2 x 1.0mm
Pitch	250µm
Wavelengths	825nm to 865nm
Attenuation (Examples)	-2.5dB; -3.7dB; -4.6dB;
Back Reflection	-32dB
Optical Cross Talk	-42dB
Source Divergence	4

Contact a DigitalOptics sales representative for more information.

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