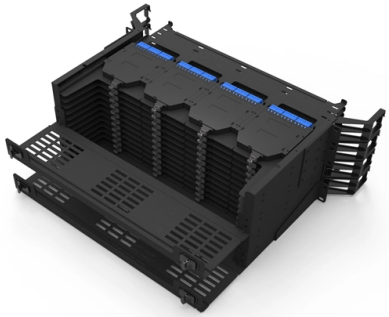
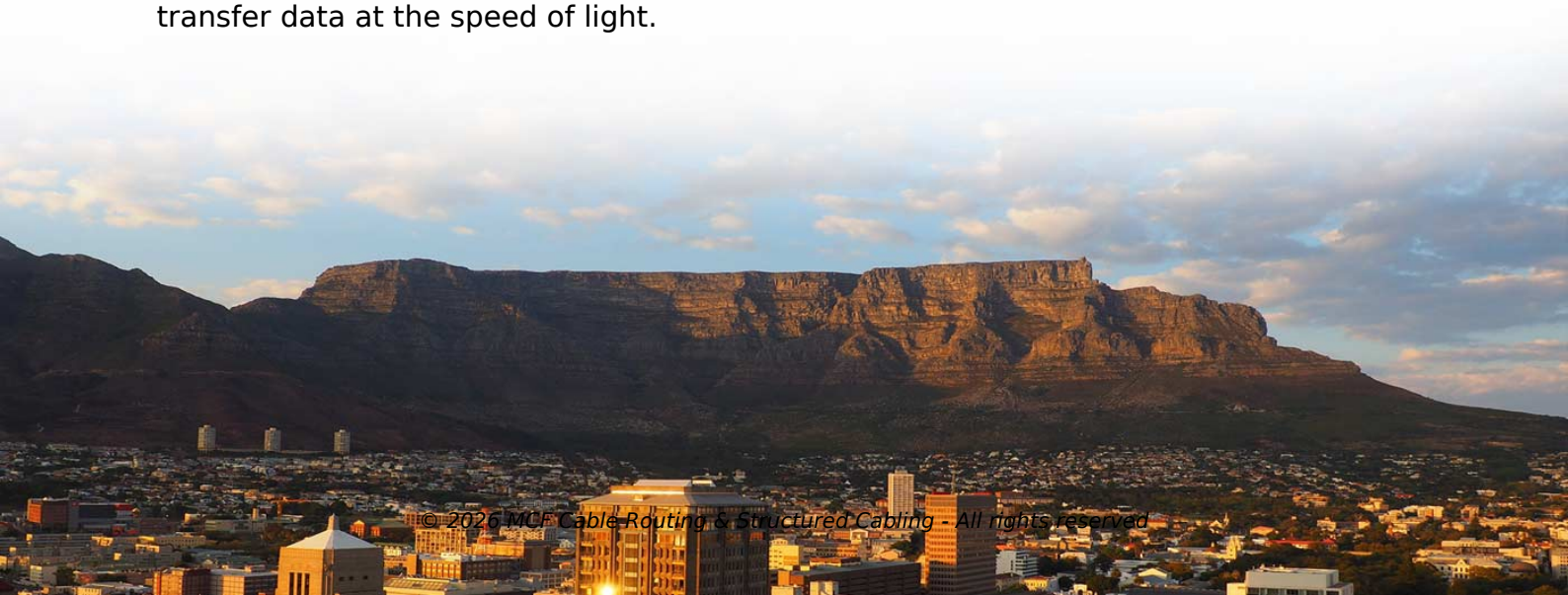
Principle of Optical Module and Optical Receiver



Overview

An optical module typically consists of an optical transmitter (TOSA, Transmitter Optical Sub-Assembly, containing a laser diode), an optical receiver (ROSA, Receiver Optical Sub-Assembly, containing a photodetector), functional circuits, and optical (electrical). An optical module typically consists of an optical transmitter (TOSA, Transmitter Optical Sub-Assembly, containing a laser diode), an optical receiver (ROSA, Receiver Optical Sub-Assembly, containing a photodetector), functional circuits, and optical (electrical). As an essential component of optical fiber communication, optical modules are optoelectronic devices that facilitate the conversion between optical and electrical signals during the transmission process. Operating at the physical layer of the OSI model, optical modules are core devices in optical. In the era of 5G, AI, and high-speed data centers, optical modules serve as the core bridge for converting electrical signals to optical signals (and vice versa), enabling fast, reliable data transmission across networks. This assembly comprises a light source, such as a laser diode or a semiconductor light-emitting diode (LED), an optical interface, a. Modern communication networks rely on optical transceivers to transfer data at the speed of light.



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Article Content

Optical Module Working Principle

As can be seen in Figure 1, the main part of the optical module is composed of an optical transmitter component, a laser driver, an optical receiver component

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