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(54) MINIATURIZED MULTICHANNEL WAVELENGTH DIVISION MULTIPLEXING OPTICAL MODULE

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(57) **ABSTRACT**

An optical assembly is used for communicating laser light from a plurality of laser sources into channels for an optical network. The optical assembly comprises an optical substrate, an input optic, at least one Z-block, filters, at least one fiber collimator, and at least one delivery fiber. The input optic is disposed on the optical substrate and is configured to receive the laser light from the laser sources. The input optic is configured to collimate the laser light into a plurality of collimated laser beams. The at least one Z-block is disposed on the substrate and has an input surface and an output surface. The input surface has a plurality of filters disposed thereon, and the input surface is disposed at an angle of incidence relative to the collimated beams from the input optic. The output surface is disposed parallel to the input surface and can have at least one isolator. The at least one Z-block is configured to multiplex the collimated laser beams into at least one output signal having a plurality of the channels. At least one fiber collimator disposed on the substrate has an input and an output. The input is disposed in optical communication with the at least one Z-block and is configured to receive the output signal. The at least one delivery fiber is optically coupled to the output of the at least one fiber collimator and is configured to conduct the optical signal to a receptacle.