

Optical repeater circuit design based on InAlAs/InGaAs HEMT digital IC technology

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This paper describes an optical repeater circuit that uses an InAlAs/InGaAs HEMT digital integrated circuit (IC) chip set. The chip set includes a 64-Gb/s 2:1 multiplexer (MUX), a 40-Gb/s demultiplexer (DEMUX), a 46-Gb/s decision circuit (DEC), and a 48-GHz frequency divider (DIV). Electrically multiplexed and demultiplexed 40-Gb/s 300-km transmission is successfully demonstrated.

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