Abstracts

A Novel Deposit/Spin Waveguide Interconnection (DWSI) for Semiconductor Integrated Optics

K. Furuya, B.I. Miller, L.A. Coldren and R.E. Howard. "A Novel Deposit/Spin Waveguide Interconnection (DWSI) for Semiconductor Integrated Optics." 1982 Transactions on Microwave Theory and Techniques 30.10 (Oct. 1982 [T-MTT] (Special Issue on Optical Guided Wave Technology)): 1771-1777.

We propose an efficient and simple optical interconnection between active semiconductor components by deposition and spin coating. Details of the waveguide design, the fabrication technique, and a promising material combination are given. Experimental results with an integrated laser-polyimide/SiO/sub x/ (x ~ 2) waveguide combination demonstrate low-threshold (2.0 kA/cm²) laser operation and a low-loss waveguide interconnection (81 percent coupling efficiency) on a GaInAaP/InP chip.

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