Abstracts

Single-Mode Fiber-Type Polarizer

T. Hosaka, K. Okamoto and J. Noda. "Single-Mode Fiber-Type Polarizer." 1982 Transactions on Microwave Theory and Techniques 30.10 (Oct. 1982 [T-MTT] (Special Issue on Optical Guided Wave Technology)): 1557-1560.

The simple and novel fabrication technique of the fiber-type polarizer has been demonstrated and the polarization characteristics of the polarizer have been investigated. The polarizer structure consists of the eccentric core and the metal coat on the thin buffer layer whose thickness is controlled by chemical etching. The maximum extinction ratio of 41 dB (polarizer length L = 40.8 mm) was obtained at Lambda = 1.15 µm when the buffer layer thickness was about 0.3 µm. Although the insertion loss increases with decreasing the buffer layer thickness, the insertion loss of 0.66 dB was obtained with the extinction ratio of 22 dB (polarizer length L = 21.4 mm). An aluminum coat was superior to a gold coat for low propagation loss and a high extinction ratio.

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