Abstracts

A Periodic Branching Filter for Millimeter-Wave Integrated Circuits

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A number of passive and active devices using dielectric waveguides have been developed and find various applications in integrated circuits at the millimeter optical-frequency range. The design, theoretical considerations and experimental findings of a periodic branching filter using rectangular dielectric waveguides are described in this paper. Low insertion loss for the periodic branching filter with 850-MHz 3-dB bandwidth, less than 1.0 dB, is achieved in the frequency range from 77 to 85 GHz. Measured results are in good agreement with theoretical calculations.

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