

# Abstracts

## Multilayer MMIC Branch-Line Coupler and Broad-Side Coupler

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*I. Toyoda, T. Hirota, T. Hiraoka and T. Tokumitsu. "Multilayer MMIC Branch-Line Coupler and Broad-Side Coupler." 1992 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 92.1 (1992 [MCS]): 79-82.*

Very small, multilayer MMIC couplers are newly proposed. New methods for size reduction, i.e., a quasi-lumped elements approach and a newly-developed multilayer coupled-line structure, are also described. A 24-26 GHz band branch-line coupler and a 20-30 GHz band broad-side coupler are implemented in very small areas of less than 0.4 mm x 0.4 mm and 0.2 mm x 0.2 mm, respectively.

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