Abstracts

A MMIC Compatible Coupled Line Structure that Uses Embedded Microstrip to Achieve Extremely Tight Couplings

D. Willems and I. Bahl. "A MMIC Compatible Coupled Line Structure that Uses Embedded Microstrip to Achieve Extremely Tight Couplings." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 581-584.

This paper presents a highly manufacturable coupled line structure for MMICs which uses embedded microstrip to achieve tight coupling and only employs the process steps necessary to make MIM capacitors. Passive circuits demonstrated using this technique include a single-section 5 to 21 GHz broadband 3 dB coupler and a 6 to 15 GHz 90 degree Schiffman section. The coupler and the Schiffman section use tight (2 dB) to extremely tight (0.7 dB) coupling factors, respectively. This is the first time that a coupler has achieved such a wide bandwidth on a 125 µm thick GaAs substrate.

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