Abstracts

A Monolithic GaAs 1--13-GHz Traveling-Wave Amplifier

Y. Ayasli, R.L. Mozzi, J.L. Vorhaus, L.D. Reynolds and R.A. Pucel. "A Monolithic GaAs 1--13-GHz Traveling-Wave Amplifier." 1982 Transactions on Microwave Theory and Techniques 30.7 (Jul. 1982 [T-MTT] (Joint Special Issue on GaAs IC's)): 976-981.

This paper describes a monolithic GaAs traveling-wave amplifier with 9-dB gain and ±1-dB gain flatness in the 1-13-GHz frequency range. The circuit is realized in monolithic form on a 0.1-mm GaAs substrate with 50-Omega input and output lines. In this approach GaAs FET's periodically load input and output microstrip lines and provide the coupling between them with proper phase through their transconductance. Experimental results and the circuit details of such a structure are discussed. Initial results of a noise analysis and predictions on the noise performance are also given.

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