Abstracts

5-100 GHz InP Coplanar Waveguide MMIC Distributed Amplifier

R. Majidi-Ahy, C.K. Nishimoto, M. Riaziat, M. Glenn, S. Silverman, S.-L. Weng, Y.-C. Pao, G.A. Zdasiuk, S.G. Bandy and Z.C.H. Tan. "5-100 GHz InP Coplanar Waveguide MMIC Distributed Amplifier." 1990 Transactions on Microwave Theory and Techniques 38.12 (Dec. 1990 [T-MTT] (1990 Symposium Issue)): 1986-1993.

A single-stage 5-100 GHz InP MMIC amplifier with an average gain of more than 5.5 dB has been developed. This MMIC distributed amplifier has the highest frequency and bandwidth of operation (5-100 GHz) reported to date for wide-band amplifiers. The average associated (not optimized) noise figure of the MMIC amplifier was approximately 5.8 dB measured over 4-40 GHz. The active devices in this seven-section distributed amplifier were 0.1 µm mushroom gate, InGaAs-InAlAs lattice-matched HEMT's on a semi-insulating InP substrate. Coplanar waveguide was the transmission medium for this 100 GHz MMIC with an overall chip dimension of 500 µm by 860 µm.

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