Abstracts

Design and Performance of Monolithic GaAs Direct-Coupled Preamplifiers and Main Amplifiers

Y. Imai, N. Kato, K. Ohwada and T. Sugeta. "Design and Performance of Monolithic GaAs Direct-Coupled Preamplifiers and Main Amplifiers." 1985 Transactions on Microwave Theory and Techniques 33.8 (Aug. 1985 [T-MTT]): 686-692.

The design and performance of a GaAs direct-coupled preamplifier and main amplifier is described. The amplifiers are fabricated by the self-aligned implantation for n/sup +/ -Iayer technology (SAINT) process. The developed preamplifiers have 13-dB gain, 3-GHz bandwidth, and 4.8-dB noise figure for the one-stage amplifier, and 22-dB gain, 2.7-GHz bandwidth, and 5.6-dB noise figure for the two-stage amplifier. The developed four-stage main amplifier has 36-dB gain and 1.5-GHz bandwidth with a power consumption of 710 mW. These amplifiers are promising candidates for application to high-speed data communication systems.

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