Abstracts

12-GHz-Band Low-Noise GaAs Monolithic Amplifiers

T. Sugiura, H. Itoh, T. Tsuji and K. Honjo. "12-GHz-Band Low-Noise GaAs Monolithic Amplifiers." 1983 Transactions on Microwave Theory and Techniques 31.12 (Dec. 1983 [T-MTT] (1983 Symposium Issue)): 1083-1088.

One- and two-stage 12-GHz-band low-noise GaAs monolithic amplifiers have been developed for use in direct broadcasting satellite (DBS) receivers. The one-stage amplifier provides a less than 2.5-dB noise figure with more than 9.5-dB associated gain in the 11.7-12.7-GHz band. In the same frequency band, the two-stage amplifier has a less tlhan 2.8-dB noise figure with more than 16-dB associated gain. A 0.5-µm gate closely spaced electrode FET with an ion-implanted active layer is employed in the amplifier in order to achieve a low-noise figure without reducing reproducibility. The chip size is 1 mm x 0.9 mm for the one-stage amplifier, and 1.5 mm x 0.9 mm for the two-stage amplifier.

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