Abstracts

A 12 GHz-Band Super Low-Noise Amplifier Using a Self-Aligned Gate MESFET

N. Ayaki, T. Shimura, K. Hosogi, T. Kato, Y. Nakajima, M. Sakai, Y. Kohno, H. Nakano and N. Tanino. "A 12 GHz-Band Super Low-Noise Amplifier Using a Self-Aligned Gate MESFET." 1989 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 89.1 (1989 [MCS]): 7-10.

A 12 GHz-band 4-stage monolithic super low-noise amplifier has been designed and fabricated using self-aligned multi-layer gate FETs. A 0.3µm-gate FET used in the amplifier has achieved a typical noise figure of 1.07dB with an associated gain of 9.0dB at 12GHz. The amplifier gives a minimum noise figure of 1.58dB with a gain of 29dB at 12GHz and the noise figure is less than 1.76dB with an associated gain as high as 28.0dB in the frequency range from 11.7 to 12.7GHz. It is the lowest noise figure ever reported for MESFET monolithic amplifiers in the 12GHz-band.

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