Abstracts

A 2.5 dB Low Noise 6 to 18 GHz HEMT MMIC Amplifier

J. Panelli, N. Chiang, W. Ou, R. Chan, C. Shih, Y.C. Pao and J. Archer. "A 2.5 dB Low Noise 6 to 18 GHz HEMT MMIC Amplifier." 1992 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 92.1 (1992 [MCS]): 21-24.

A 2-stage, 6 to 18 GHz, 15.0 dB gain monolithic GaAs HEMT low noise amplifier was designed, fabricated and tested. A typical noise figure of 2.5 dB and output power of 5 dBm were measured and is believed to be the lowest noise figure reported for a 6 to 18 GHz MMIC low noise amplifier. This MMIC amplifier exhibits excellent performance at a DC power consumption of 2 volts and 20 mA. This state-of-art performance was achieved using a production 0.25 µm standard HEMT technology without mushroom gates. Low DC power consumption, low noise figure and high gain makes this device well suited for front-end receiver applications.

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