Abstracts

Sensitivity Analysis of 50-GHz MMIC-LNA on Gate-Recess Depth with InAIAs/InGaAs/InP HEMTs (1994 [MCS])

Y. Umeda, T. Enoki and Y. Ishii. "Sensitivity Analysis of 50-GHz MMIC-LNA on Gate-Recess Depth with InAIAs/InGaAs/InP HEMTs (1994 [MCS])." 1994 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 94.1 (1994 [MCS]): 157-160.

This paper proposes a new systematic approach to the noise-figure (NF) sensitivity analysis of MMIC low-noise amplifiers (LNA) regarding device-structure parameters such as gate-recess variation for the first time as far as we know. A full-monolithic uniplanar two-stage LNA with an extremely low NF of 2.8 dB at 50 GHz is fabricated and analyzed using this new method. A comparative study reveals that the gate-recess variation in the fabricated HEMTs causes no substantial NF variation in the MMIC-LNAs.

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