

Abstracts

High performance 60-GHz coplanar MMIC LNA using InP heterojunction FETs with AlAs-InAs superlattice layer

A. Fujihara, E. Mizuki, H. Miyamoto, Y. Makino, K. Yamanoguchi and N. Samoto. "High performance 60-GHz coplanar MMIC LNA using InP heterojunction FETs with AlAs-InAs superlattice layer." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. 1 [MWSYM]): 21-24.

We describe a 60-GHz coplanar MMIC low-noise amplifier (LNA) using 0.1 μm -gate-length InP heterojunction FETs (HJFETs). An optimum gate width of 80 μm was determined for the first stage FET by using a small signal model including accurate scaling of the gate resistance. On-wafer noise measurements demonstrated a noise figure of 2.2 dB and a gain of 22.8 dB at 60 GHz.

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