Abstracts

Low-Noise HEMT Using MOCVD

K. Tanaka, M. Ogawa, K. Togashi, H. Takakuwa, H. Ohke, M. Kanazawa, Y. Kato and S. Watanabe. "Low-Noise HEMT Using MOCVD." 1986 Transactions on Microwave Theory and Techniques 34.12 (Dec. 1986 [T-MTT] (1986 Symposium Issue)): 1522-1527.

Low-noise HEMT AIGaAs/GaAs heterostructure devices have been developed using metal organic chemical vapor deposition (MOCVD). The HEMT's with 0.5-µm-long and 200-µm-wide gates have shown a minimum noise figure of 0.83 dB with an associated gain of 12.5 dB at 12 GHz at room temperature. Measurements have confirmed calculations on the effect of the number of gate bonding pads on the noise figure for different gate widths. Substantial noise figure improvement was observed under low-temperature operation, especially compared to conventional GaAs MESFET's. A two-stage amplifier designed for DBS reception using the HEMT in the first stage has displayed a noise figure under 2.0 dB from 11.7 to 12.2 GHz.

❑ Return to main document.