Abstracts

Ultra-Low-Noise Millimeter-Wave Pseudomorphic HEMT's (1989 Vol. III [MWSYM])

R.E. Lee, R.S. Beaubien, R.H. Norton and J.W. Bacon. "Ultra-Low-Noise Millimeter-Wave Pseudomorphic HEMT's (1989 Vol. III [MWSYM])." 1989 MTT-S International Microwave Symposium Digest 89.3 (1989 Vol. III [MWSYM]): 975-978.

Tenth-micrometer gate length devices based on AIGaAs/InGaAs/GaAs pseudomorphic HEMT's have produced record low-noise performance at 43 GHz. The room temperature device noise figure is measured to be 1.32 dB (noise temperature =103 K) with 6.7 dB associated gain and at 17 K physical temperature, the noise figure is 0.36 dB (noise temperature =25 K) with 6.9 dB associated gain. This is the lowest noise figure yet reported for any GaAs based device at 43 GHz.

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