Abstracts

Ultra Low-Noise Performance of 0.15-Micron Gate GaAs MESFET's Made by Direct Ion Implantation for Low-Cost MMIC's Applications

M. Feng, J. Laskar, J. Kruse and R. Neidhard. "Ultra Low-Noise Performance of 0.15-Micron Gate GaAs MESFET's Made by Direct Ion Implantation for Low-Cost MMIC's Applications." 1992 Microwave and Guided Wave Letters 2.5 (May 1992 [MGWL]): 194-195.

The high-speed and noise performance of 0.15-micron gate GaAs MESFET's for microwave and miltimeter-wave IC applications is reported on. The best extrinsic f/sub t/ is 109 GHz without correction for pad parasitic which is equivalent to an intrinsic f/sub t/ of 134 GHz. The 0.15 x 200-micron gate GaAs MESFET achieved 0.6-dB noise figure with 17-dB associated gain at 10 GHz and 0.9-dB noise figure with 13-dB associated gain at 18 GHz. The measured noise figure and associated gain is the best reported performance for GaAs MESFET's and comparable to the best noise/gain performance of HEMT's and P-HEMT's.

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