Abstracts

Super Low-Noise Self-Aligned Gate GaAs MESFET with Noise Figure of 0.87dB at 12GHz

K. Hosogi, N. Ayaki, T. Kato, T. Oku, Y. Kohno, H. Nakano, T. Shimura, H. Takano and K. Nishitani. "Super Low-Noise Self-Aligned Gate GaAs MESFET with Noise Figure of 0.87dB at 12GHz." 1990 MTT-S International Microwave Symposium Digest 90.3 (1990 Vol. III [MWSYM]): 1257-1260.

Advanced Self-aligned multi-layer gate FET (SAMFET) is developed for super low-noise MMIC amplifiers. Reduction of gate resistance by adopting a novel T-shaped multi-layer gate results in improvement of minimum noise figure by 0.2dB compared with conventional SAMFET. At 12GHz, advanced SAMFET gives a minimum noise figure of 0.87dB with associated gain of 10.62dB. Excellent uniformity of performances and high reliability are confirmed. They are owing to complete planer structure and refractory WSi gate contact. This technology is considered to be promising for high performance and low cost MMICs.

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