Abstracts

Enhancement-Mode Pseudomorphic Inverted HEMT for Low Noise Amplifier (Dec. 1991 [T-MTT])

K. Ohmuro, H.I. Fujishiro, M. Itoh, H. Nakamura and S. Nishi. "Enhancement-Mode Pseudomorphic Inverted HEMT for Low Noise Amplifier (Dec. 1991 [T-MTT])." 1991 Transactions on Microwave Theory and Techniques 39.12 (Dec. 1991 [T-MTT] (1991 Symposium Issue)): 1995-2000.

Characteristics of pseudomorphic inverted HEMT (P-I-HEMT) are compared with that of pseudomorphic HEMT. Both devices were fabricated in enhancement-mode by the same process. P-I-HEMT shows higher maximum transconductance of 590 mS\mm, and higher K-value of 600 mS/Vmm at thresh-old voltage of 0 V, and good pinch-off characteristics than its counterpart. Noise characteristics of P-I-HEMT are reported for the first time in this paper. Lower noise figure (1.0 dB at 18 GHz) was obtained in P-I-HEMT. It is concluded that the P-I-HEMT structure is suitable for fine gate low noise FETs. Furthermore, P-I-HEMT shows far better noise characteristics than the other at low drain voltage and current,

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