Abstracts

Record power-added-efficiency, low-voltage GOI (GaAs on insulator) MESFET technology for wireless applications

P. Parikh, J. Ibbetson, U. Mishra, D. Docter, Minh Le, K. Kiziloglu, D. Grider, J. Pusl, D. Widman, L. Kehias and T. Jenkins. "Record power-added-efficiency, low-voltage GOI (GaAs on insulator) MESFET technology for wireless applications." 1998 Transactions on Microwave Theory and Techniques 46.12 (Dec. 1998, Part II [T-MTT] (1998 Symposium Issue)): 2202-2207.

A record-high power-added efficiency (PAE) is obtained from a GaAs on insulator (GOI) MESFET. Al/sub 2/O/sub 3/ obtained by the wet oxidation of Al/sub 0.98/GaAs in steam is used as the insulating buffer layer. The insulating buffer results in elimination of buffer leakage and enhanced charge control. 0.35-/spl mu/m gate-length GOI MESFETs exhibiting a record PAE of 72% at a drain voltage of 3 V at 4 GHz are demonstrated.

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