Abstracts

High-Performance 0.15-µm-Gate-Length pHEMTs Enhanced with a Low-Temperature-Grown GaAs Buffer

R. Actis, K.B. Nichols, W.F. Kopp, T.J. Rogers and F.W. Smith. "High-Performance 0.15-µm-Gate-Length pHEMTs Enhanced with a Low-Temperature-Grown GaAs Buffer." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 445-448.

An improved GaAs power pHEMT is presented. The device utilizes a low-temperature-grown (LTG) GaAs buffer layer instead of the conventional-buffer layers commonly used by pHEMT manufacturers. When contrasted with identical devices using a conventional buffer, these LTG-buffered pHEMTs have shown a 45% increase in channel breakdown voltage, a 12% increase in power output, and a record 63% power-added efficiency at 20 GHz.

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