Abstracts

A buried p-gate heterojunction field effect transistor for a power amplifier of digital wireless communication systems

M. Nakamura, S. Wada, M. Abe, H. Kawasaki and I. Hase. "A buried p-gate heterojunction field effect transistor for a power amplifier of digital wireless communication systems." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1095-1098 vol.3.

A buried p/sup +/-AlGaAs gate AlGaAs-InGaAs-AlGaAs double heterojunction FET has been developed for power amplifiers of advanced wireless communication handsets. The buried p/sup +/-AlGaAs gate was formed by a Zn diffusion technique. A low on-resistance of 1.6 /spl Omega/mm and a high gate built-in voltage of 1.5 V with a maximum transconductance of 420 mS/mm were realized for a 0.8 /spl mu/m gate device. An output power of 22.1 dBm, an ACPR of -48.8 dBc/30 kHz and an efficiency of 50.4% were obtained under 1.9 GHz narrow band CDMA signal excitation and positive gate bias operation.

❑ Return to main document.