Abstracts

InGaP PHEMTs for 3.5GHz W-CDMA applications

E. Lan, E. Johnson, B. Knappenberger and M. Miller. "InGaP PHEMTs for 3.5GHz W-CDMA applications." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1039-1042 vol.2.

In this paper we present DC, small signal, and power characteristics of an InGaP PHEMT device using InGaP as barrier layer material. A comparison of intrinsic Gm, Rds, Cgs, and Cgd with an AlGaAs PHEMT device showed that the InGaP PHEMT is very promising for microwave and RF linear power amplification. Operating from 12 V supplies, a 15.4 mm InGaP PHEMT device achieved 29.5 dBm output power with 12.1 dB associated gain and 25.6% power-added-efficiency at 3.5 GHz, while meeting the -40 dBc ACPR specification under W-CDMA stimulus.

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