Abstracts

High-Power 0.15-µm V-Band Pseudomorphic InGaAs-AlGaAs-GaAs HEMT

R. Lai, M. Wojtowicz, C.H. Chen, M. Biedenbender, H.C. Yen, D.C. Streit, K.L. Tan and P.H. Liu. "High-Power 0.15-µm V-Band Pseudomorphic InGaAs-AlGaAs-GaAs HEMT." 1993 Microwave and Guided Wave Letters 3.10 (Oct. 1993 [MGWL]): 363-365.

The dc and RF power performance of double heterostructure pseudomorphic InGaAs-AlGaAs-GaAs HEMT's at V-band is reported. A 0.15-µm x 400-µm device has demonstrated output power of 225 mW (0.55 W/mm) with 4.5-dB power gain and 25.4% PAE at 60 GHz. A 0.15-µm x 320-µm device demonstrated 31.1% PAE with 170 mW (0.53 W/mm) output power and 5.3 dB power gain. These data represent the highest reported combination of output power, power gain and power-added efficiency reported for a single device at V-band.

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