Abstracts

Millimeter-Wave Power Performance of Ion-Implanted In/sub x/Ga/sub (1-x)/As on GaAs Metal Semiconductor Field-Effect Transistors

M. Feng, C.L. Lau, P. Brusenback and L.J. Kushner. "Millimeter-Wave Power Performance of Ion-Implanted In/sub x/Ga/sub (1-x)/As on GaAs Metal Semiconductor Field-Effect Transistors." 1992 Microwave and Guided Wave Letters 2.6 (Jun. 1992 [MGWL]): 225-227.

Millimeter-wave power performance achieved by ion-implanted InGaAs-GaAs MESFET's with a gate length of 0.25 micron is described. When the device with a gate width of 150 micron was measured at 22 GHz, an output power of 95 mW, a power-added efficiency of 33%, and an associated gain of 7.3 dB were achieved. At an output power of 93 mW, a power-added efficiency of 25%, and an associated gain of 4 dB were obtained at 44 GHz. When the device with a gate width of 200 micron was measured at 60 GHz, an output power of 121 mW with 3 dB associated gain and 13% power-added efficiency were achieved.

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