Abstracts

Novel InGaP/AlGaAs/InGaAs heterojunction FET for X-Ku band power applications

Y. Okamoto, K. Matsunaga, M. Kuzuhara and M. Kanamori. "Novel InGaP/AlGaAs/InGaAs heterojunction FET for X-Ku band power applications." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1191-1194.

We have successfully fabricated a novel heterojunction FET (HJFET) with an InGaP surface layer for high yield X-Ku band power applications. Standard deviation in the threshold voltage of 60 mV was achieved by using a highly-selective wet recess etching technique. The fabricated HJFET (Wg=16.8 mm) delivered an output power of 9.5 W and a power-added efficiency of 35% with a low carrier-to-third-order intermodulation distortion ratio of -29.5 dBc at 12 GHz. Moreover, the 25.2 mm HJFET delivered an output power of 12.2 W.

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