Abstracts

An HEMT with an Integrated On-Drain Capacitor as Basis of an Hybrid Mixer

R. Allam, C. Kolanowski, D. Theron and Y. Crosnier. "An HEMT with an Integrated On-Drain Capacitor as Basis of an Hybrid Mixer." 1995 Microwave and Guided Wave Letters 5.3 (Mar. 1995 [MGWL]): 76-78.

This paper reports the study of an HEMT, the characteristic of which is to have a decoupling capacitor directly integrated between its drain and source electrodes. It is shown that, with an appropriate design of this basic filtering element, such a device proves to be efficient as for the realization of hybrid gate mixers. An experimental demonstration of this property is given by the comparing a HEMT without capacitor with a HEMT with an integrated capacitor. For the latter, the gate length of which is 0.3 µm, it is shown that, at 18 GHz, a 5-dB improvement of conversion gain is provided by the integrated capacitor.

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