Abstracts

Effects on the linearity in Ka band of single or double-recessed PHEMT's

C. Gaquiere, F. Bue, P. Delemotte, Y. Crosnier, B. Carnez and D. Pons. "Effects on the linearity in Ka band of single or double-recessed PHEMT's." 2000 Microwave and Guided Wave Letters 10.7 (Jul. 2000 [MGWL]): 267-269.

The effects of the gate recess topologies on the linearity performance of PHEMT's have been investigated in the Ka band. The authors highlight the reasons why, at a given output power level, the double recessed device exhibits a very large improvement of its intermodulation performance as its drain source bias voltage is increased whereas its linearity is inferior to that of the single recessed device at low drain source bias voltage. The effect of the load impedance on the linearity behavior has also been investigated. At a given output power the load impedance contour of the double recess structure is shown to exhibit a much larger variation of the intermodulation ratio than that of the single recess structure.

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