Abstracts

On the effects of hot electrons on the DC and RF characteristics of lattice-matched InAlAs/InGaAs/InP HEMTs

R. Menozzi, M. Borgarino, Y. Baeyens, M. Van Hove and F. Fantini. "On the effects of hot electrons on the DC and RF characteristics of lattice-matched InAlAs/InGaAs/InP HEMTs." 1997 Microwave and Guided Wave Letters 7.1 (Jan. 1997 [MGWL]): 3-5.

The authors for the first time present results of hot electron stressing of InAlAs/InGaAs/InP high electron mobility transistors (HEMTs). High drain bias, room temperature stress cycles have been applied to 0.3 /spl mu/m, SiN-passivated, lattice-matched devices, and the changes of the DC and RF (up to 50 GHz) characteristics have been studied. Both the DC and RF device gain degrade after stressing; the effect of the stress on the unity current gain cutoff frequency f/sub T/ is studied under different bias conditions. Results indicate that surface degradation may be responsible for the observed changes.

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