

RF Power improvement of AlGaN/GaN based HFETs and MOSHFETs

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High Power and high temperature electronics applications is one of the reasons for the enormous effort and progress which has been made in the development of III-nitride semiconductor material. A lot of investigations were done with regard to DC/RF dispersion since it influences the RF-performance of devices extremely. Significant performance improvement was achieved by application of a passivation layer on conventional AlGaN/GaN based HFETs. In a second step the introduction of a thin insulation layer underneath the gate to reduce the gate leakage current leads to the MISHFET or MOSHFET.

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