

Accepted Manuscript

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PII: S0167-9317(18)30330-7
DOI: doi:[10.1016/j.mee.2018.07.010](https://doi.org/10.1016/j.mee.2018.07.010)
Reference: MEE 10834

To appear in: *Microelectronic Engineering*

Received date: 7 June 2018
Revised date: 27 June 2018
Accepted date: 19 July 2018

Please cite this article as: Dae-Young Jeon, Do-Kywn Kim, So Jeong Park, Yumin Koh, Chu-Young Cho, Gyu-Tae Kim, Kyung-Ho Park, Effects of series resistance and interface properties on the operation of AlGaIn/GaN high electron mobility transistors. Mee (2018), doi:[10.1016/j.mee.2018.07.010](https://doi.org/10.1016/j.mee.2018.07.010)

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Effects of series resistance and interface properties on the operation of AlGaIn/GaN high electron mobility transistors

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ABSTRACT

The AlGaIn/GaN high electron mobility transistor (HEMT) is considered a promising device for high-power, high-frequency, and high-temperature applications, as well as high-sensitivity sensors. However, several issues related to mobility, interface properties, and series resistance need to be clarified for a better understanding of the physical operation of AlGaIn/GaN HEMTs and for further optimization of their performance. In this work, the electrical properties of AlGaIn/GaN HEMTs, including the effects of series resistance, and interface properties with mobility degradation factors were investigated in detail. In addition, the low-frequency noise

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