### **Accepted Manuscript**

A new low specific on-resistance Hk-LDMOS with N-poly diode

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PII: S0749-6036(16)30395-0

DOI: 10.1016/j.spmi.2016.11.049

Reference: YSPMI 4684

To appear in: Superlattices and Microstructures

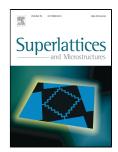
Received Date: 01 July 2016

Revised Date: 23 November 2016

Accepted Date: 24 November 2016

Please cite this article as: Jing Deng, Mingmin Huang, Junji Cheng, Xinjiang Lyu, Xingbi Chen, A new low specific on-resistance H*k*-LDMOS with N-poly diode, *Superlattices and Microstructures* (2016), doi: 10.1016/j.spmi.2016.11.049

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#### **ACCEPTED MANUSCRIPT**

## Highlights:

A 700 V LDMOS structure using a high permittivity (Hk) dielectric is proposed.

The breakdown voltage is remarkably increased by using the Hk dielectric.

An electron accumulation layer is formed at the surface of the drift region.



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