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*BB6.03 III-V MOS: Planar and Fin Technologies

Symposium BB: Materials for End-of-Roadmap Devices in Logic, Power and Memory

2:15 PM–2:45 PM Apr 23, 2014

Moscone West, Level 3, Room 3001

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Description

Authors / Presenters

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Abstract

We report recent results with InAs/InGaAs MOSFETs with self-aligned MOCVD-regrown InGaAs source and drain. On-state transconductance as large as 2.7 mS/micron have been observed in 55nm Lg devices. We will describe the role of back barrier design, vertical spacers in the high-field region, and channel quantized bandgap on off-state characteristics. We will also describe recent results with ALE-defined InGaAs finFETs, a technology with the potential for few-nm body thickness and high height/pitch aspect ratios, and discuss its potential application in low-voltage logic

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