

Editorial



It is a great honor and pleasure for me to serve as a guest editor of JSTS June special issue on the 15th Korean Conference on Semiconductors (KCS 2008). Eight excellent papers, among the 459 accepted papers, were selected to present engineering and technical developments which draw attention in 2007.

The first paper is on the thin film. D.W. Kang shows ultra low temperature nc-Si (nanocrystalline Si) growth in TFT channel region and its characterization on thickness variation.

Junsoo Kim presents the extraction of effective carrier velocity based on the actual inversion charge measurement, and compares those of electron and hole in sub 40 nm MOSFETs.

An electrostatic field induced MEMS inkjet head design that yields high electric field to produce sustainable micro-dripping mode, and the actual results are shown by Youngmin Kim. H.B. Kang describes 32Mb PRAM with PN-diode-Cell, where an ingenious cell drive technique improved the layout efficiency, while keeping the write path impedance low enough for cell write current of 1 mA.

Prof Suhwan Kim presents a power gating structure to reduce ground bounce by random turning of stacked sleep transistors, where metal to metal capacitors are connected to suppress external power supply bounce noise.

K.A. Lee designed an X-band MMIC 2-stage power amplifier with bus-bar power combiner with improved transistor symmetry. Shinil Chang designed a 2.4 GHz DCR (Direct Conversion Receiver) by introducing a hybrid balun and a new transformer model instead of mutual inductance, which allowed easier and more accurate modeling.

The last paper, by H.C. Kang, describes a new BER simulator that can analyze the link and obtain the eye diagram and bath tub curve, with <5% error.

I would like to express deep gratitude to all the authors for having submitted excellent technical papers to this special issue.

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