

Journal of Semiconductors

Volume 31 Number 8 August 2010

SEMICONDUCTOR PHYSICS

- 082001 First-principles of wurtzite ZnO (0001) and (000 $\bar{1}$) surface structures (5 pages)
Zhang Yufei, Guo Zhiyou, Gao Xiaoqi, Cao Dongxing, Dai Yunxiao, and Zhao Hongtao
- 082002 Young's modulus characterization of low- k films of nanoporous Black DiamondTM by surface acoustic waves (5 pages)
Shan Xingmeng, Xiao Xia, and Liu Yaliang
- 082003 Theoretical study of the SiO₂/Si interface and its effect on energy band profile and MOSFET gate tunneling current (5 pages)
Zhu Huiwen, Liu Yongsong, Mao Lingfeng, Shen Jingqin, Zhu Zhiyan, and Tang Weihua
- 082004 Theoretical modeling of the interface recombination effect on the performance of III-V tandem solar cells (6 pages)
Lin Guijiang, Wu Jyhchiarng, and Huang Meichun

SEMICONDUCTOR MATERIALS

- 083001 Planar nucleation and crystallization in the annealing process of ion implanted silicon (5 pages)
Luo Yimin, Chen Zhenhua, and Chen Ding
- 083002 Photoconductive properties of lead iodide films prepared by electron beam evaporation (4 pages)
Zhu Xinghua, Yang Dingyu, Wei Zhaorong, Sun Hui, Wang Zhiguo, and Zu Xiaotao
- 083003 Effect of bath temperature on the properties of CuIn_xGa_{1-x}Se₂ thin films grown by the electrodeposition technique (4 pages)
Cao Jie, Qu Shengchun, Liu Kong, and Wang Zhanguo
- 083004 Growth orientation and superconducting properties of YBa₂Cu₃O_{7- δ} films prepared by the low-fluorine sol-gel process (7 pages)
Lei Li, Zhao Gaoyang, Xu Hui, and Zhao Juanjuan
- 083005 Low-temperature deposition of transparent conducting Mn-W co-doped ZnO thin films (3 pages)
Zhang Huafu, Liu Hanfa, Lei Chengxin, Zhou Aiping, and Yuan Changkun

SEMICONDUCTOR DEVICES

- 084001 A high-performance enhancement-mode AlGaN/GaN HEMT (3 pages)
Feng Zhihong, Xie Shengyin, Zhou Rui, Yin Jiayun, Zhou Wei, and Cai Shujun
- 084002 Above 700 V superjunction MOSFETs fabricated by deep trench etching and epitaxial growth (5 pages)
Li Zehong, Ren Min, Zhang Bo, Ma Jun, Hu Tao, Zhang Shuai, Wang Fei, and Chen Jian
- 084003 Diagram representations of charge pumping processes in CMOS transistors (7 pages)
Huang Xinyun, Jiao Guangfan, Shen Chen, Cao Wei, Huang Daming, and Li Mingfu
- 084004 Simulation of carrier transport in heterostructures using the 2D self-consistent full-band ensemble Monte Carlo method (5 pages)
Wei Kangliang, Liu Xiaoyan, Du Gang, and Han Ruqi
- 084005 A novel method for measuring carrier lifetime and capture cross-section by using the negative resistance I-V characteristics of a barrier-type thyristor (5 pages)
Li Hairong and Li Siyuan

(Continued on inside back cover)

- 084006 Design and application of a depletion-mode NJFET in a high-voltage BiCMOS process (4 pages)**
Liu Yong, Tang Zhaohuan, Wang Zhikuan, Yang Yonghui, Yang Weidong, and Hu Yonggui
- 084007 Influence of Ni Schottky contact thickness on two-dimensional electron-gas sheet carrier concentration of strained Al_{0.3}Ga_{0.7}N/GaN heterostructures (4 pages)**
Zhao Jianzhi, Lin Zhaojun, Lü Yuanjie, Corrigan Timothy D, Meng Lingguo, Zhang Yu, Wang Zhanguo, and Chen Hong
- 084008 Two-dimensional threshold voltage analytical model of DMG strained-silicon-on-insulator MOSFETs (6 pages)**
Li Jin, Liu Hongxia, Li Bin, Cao Lei, and Yuan Bo
- 084009 Design and optimization of a monolithic GaInP/GaInAs tandem solar cell (4 pages)**
Zhang Han, Chen Nuofu, Wang Yu, Yin Zhigang, Zhang Xingwang, Shi Huiwei, Wang Yanshuo, and Huang Tianmao
- 084010 Chlorine gas sensors using hybrid organic semiconductors of PANI/ZnPcCl₁₆ (5 pages)**
Lei Tingping, Shi Yumbo, Lü Wenlong, Liu Yang, Tao Wei, Yuan Pengliang, Lin Liwei, Sun Daoheng, and Wang Liquan
- 084011 A novel closed-form resistance model for trapezoidal interconnects (5 pages)**
Chen Baojun, Tang Zhen'an, and Yu Tiejun
- 084012 A new integrated SOI power device based on self-isolation technology (6 pages)**
Gao Huanmei, Luo Xiaorong, Zhang Wei, Deng Hao, and Lei Tianfei

SEMICONDUCTOR INTEGRATED CIRCUITS

- 085001 4 GHz bit-stream adder based on ΣΔ modulation (4 pages)**
Liang Yong, Wang Zhigong, Meng Qiao, and Guo Xiaodan
- 085002 A low power fast-settling frequency-presetting PLL frequency synthesizer (6 pages)**
Geng Zhiqing, Yan Xiaozhou, Lou Wenfeng, Feng Peng, and Wu Nanjian
- 085003 DCM, FSM, dead time and width controllers for a high frequency high efficiency buck DC–DC converter over a wide load range (7 pages)**
Pi Changming, Yan Wei, Zhang Ke, and Li Wenhong
- 085004 A low jitter, low spur multiphase phase-locked loop for an IR-UWB receiver (5 pages)**
Shao Ke, Chen Hu, Pan Yaohua, and Hong Zhiliang
- 085005 A fully integrated UHF RFID reader SoC for handheld applications in the 0.18 μm CMOS process (6 pages)**
Wang Jingchao, Zhang Chun, and Wang Zhihua
- 085006 A full on-chip CMOS low-dropout voltage regulator with VCCS compensation (5 pages)**
Gao Leisheng, Zhou Yumei, Wu Bin, and Jiang Jianhua
- 085007 Design and realization of an ultra-low-power low-phase-noise CMOS LC-VCO (4 pages)**
Wu Xiushan, Wang Zhigong, Li Zhiqun, Xia Jun, and Li Qing
- 085008 A self-adaptive full asynchronous bi-directional transmission channel for network-on-chips (9 pages)**
Guan Xuguang, Yang Yintang, Zhu Zhangming, and Zhou Duan
- 085009 A 0.8 V low power low phase-noise PLL (5 pages)**
Han Yan, Liang Xiao, Zhou Haifeng, Xie Yinfang, and Wong Waisum

SEMICONDUCTOR TECHNOLOGY

- 086001 An efficient dose-compensation method for proximity effect correction (4 pages)**
Wang Ying, Han Weihua, Yang Xiang, Zhang Renping, Zhang Yang, and Yang Fuhua