

Journal of Semiconductors

Volume 30 Number 2 February 2009

INVITED PAPERS

- 021001 The bipolar field-effect transistor: XIII. physical realizations of the transistor and circuits (one-two-MOS-gates on thin-thick pure-impure base) (12 pages)**
Sah Chih-Tang and Jie Binbin

SEMICONDUCTOR PHYSICS

- 022001 Formation of a silicon micropore array of a two-dimension electron multiplier by photo electrochemical etching (4 pages)**
Gao Yanjun, Duanmu Qingduo, Wang Guozheng, Li Ye, and Tian Jingquan

SEMICONDUCTOR MATERIALS

- 023001 Influence of the sputtering pressure on the properties of transparent conducting zirconium-doped zinc oxide films prepared by RF magnetron sputtering (4 pages)**
Liu Hanfa, Zhang Huafu, Lei Chengxin, and Yuan Changkun
- 023002 Thermal stability of HfTaON films prepared by physical vapor deposition (5 pages)**
Xu Gaobo and Xu Qiuxia
- 023003 Chemical mechanical polishing of freestanding GaN substrates (4 pages)**
Yan Huaiyue, Xiu Xiangqian, Liu Zhanhui, Zhang Rong, Hua Xuemei, Xie Zili, Han Ping, Shi Yi, and Zheng Youdou

SEMICONDUCTOR DEVICES

- 024001 A surface potential-based non-charge-sheet core model for undoped surrounding-gate MOSFETs (4 pages)**
He Jin, Zhang Jian, Zhang Lining, Ma Chenyue, and Chan Mansun
- 024002 A novel SOI-DTMOs structure from circuit performance considerations (5 pages)**
Song Wenbin, Bi Jinshun, and Han Zhengsheng
- 024003 Design and performance of a complex-coupled DFB laser with sampled grating (3 pages)**
Wang Huan, Zhu Hongliang, Jia Linghui, Chen Xiangfei, and Wang Wei
- 024004 Accurate and fast table look-up models for leakage current analysis in 65 nm CMOS technology (6 pages)**
Xue Jiying, Li Tao, and Yu Zhiping

SEMICONDUCTOR INTEGRATED CIRCUITS

- 025001 A high efficiency PWM CMOS class-D audio power amplifier (6 pages)**
Zhu Zhangming, Liu Lianxi, Yang Yintang, and Lei Han
- 025002 A 4–9 GHz 10 W wideband power amplifier (3 pages)**
Chen Zhongzi, Chen Xiaojuan, Yao Xiaojiang, Yuan Tingting, Liu Xinyu, and Li Bin
- 025003 A linear stepping PGA used in CMOS image sensors (4 pages)**
Xu Jiangtao, Li Binqiao, Zhao Shibin, Li Hongle, and Yao Suying
- 025004 Design of a 4.6 GHz high-performance quadrature CMOS VCO using transformer couple (4 pages)**
Wu Xiushan, Wang Zhigong, Li Zhiqun, and Li Qing
- 025005 A 6 GHz high power and low phase noise VCO using an InGaP/GaAs HBT (4 pages)**
Wang Xiantai, Shen Huajun, Jin Zhi, Chen Yanhu, and Liu Xinyu
- 025006 A 13-bit, 8 MSample/s pipeline A/D converter (5 pages)**
Guo Dandan, Li Fule, Zhang Chun, and Wang Zhihua

(Continued on inside back cover)

025007 **A current-mode buck DC–DC controller with adaptive on-time control** (7 pages)

Li Yanming, Lai Xinquan, Ye Qiang, Yuan Bing, Jia Xinzhang, and Chen Fuji

025008 **80 Gb/s 2 : 1 multiplexer in 0.13- μm SiGe BiCMOS technology** (4 pages)

Zhao Yan, Wang Zhigong, and Li Wei

025009 **A widely tunable continuous-time LPF for a direct conversion DBS tuner** (5 pages)

Chen Bei, Chen Fangxiong, Ma Heping, Shi Yin, and Dai F F

025010 **Design and implementation of a high dimming ratio LED drive controller** (6 pages)

Xu Xiaoru, Wu Xiaobo, Zhao Menglian, and Yan Xiaolang

025011 **Ternary logic circuit design based on single electron transistors** (5 pages)

Wu Gang, Cai Li, and Li Qin

SEMICONDUCTOR TECHNOLOGY

026001 **NiO removal of Ni/Au Ohmic contact to p-GaN after annealing** (4 pages)

Lin Mengzhe, Cao Qing, Yan Tingjing, Zhang Shuming, and Chen Lianghui

SCIENCE FUND INFORMATION

027001 **Adapting to change, meeting challenges—analysis of the applied projects in 2008 semiconductor discipline of National Natural Science Foundation of China** (6 pages)

He Jie