

# Journal of Semiconductors

Volume 32 Number 9 September 2011

## SEMICONDUCTOR PHYSICS

- 092001 SRAM single event upset calculation and test using protons in the secondary beam in the BEPC (5 pages)**  
Wang Yuanming, Guo Hongxia, Zhang Fengqi, Zhang Keying, Chen Wei, Luo Yinhong, and Guo Xiaoqiang
- 092002 Electronic structures and transport properties of BN nanodot superlattices of armchair graphene nanoribbons (6 pages)**  
An Liping, and Liu Nianhua
- 092003 Boron removal from molten silicon using sodium-based slags (4 pages)**  
Yin Changhao, Hu Bingfeng, and Huang Xinming
- 092004 30-GHz millimeter-wave carrier generation with single sideband modulation based on stimulated Brillouin scattering (4 pages)**  
Luo Zhen'ao, Xie Liang, Qi Xiaoqiong, and Wang Hui
- 092005 Highly sensitive and selective ethanol sensors based on flower-like ZnO nanorods (4 pages)**  
Liu Li, Wang Lianyuan, Han Yu, Li Shouchun, Shan Hao, Wu Peilin, Meng Xin, Wei Aiguo, and Li Wei

## SEMICONDUCTOR MATERIALS

- 093001 MOCVD epitaxy of InAlN on different templates (5 pages)**  
Yun Lijun, Wei Tongbo, Yan Jianchang, Liu Zhe, Wang Junxi, and Li Jinmin

## SEMICONDUCTOR DEVICES

- 094001 Drive current of accumulation-mode p-channel SOI-based wrap-gated Fin-FETs (5 pages)**  
Zhang Yanbo, Du Yandong, Xiong Ying, Yang Xiang, Han Weihua, and Yang Fuhua
- 094002 ESD robustness studies on the double snapback characteristics of an LDMOS with an embedded SCR (4 pages)**  
Jiang Lingli, Zhang Bo, Fan Hang, Qiao Ming, and Li Zhaoji
- 094003 A 3.4–3.6 GHz power amplifier in an InGaP/GaAs HBT (5 pages)**  
Hao Mingli, Zhang Zongnan, and Zhang Haiying
- 094004 Light extraction enhancement of SOI-based erbium/oxygen Co-implanted photonic crystal microcavities (3 pages)**  
Zhang Jiashun, Wang Yue, Wu Yuanda, Zhang Xiaoguang, Jiang Ting, An Junming, Li Jianguang, Wang Hongjie, and Hu Xiongwei
- 094005 Enhanced performance of C60 organic field effect transistors using a tris(8-hydroxyquinoline) aluminum buffer layer (4 pages)**  
Zheng Hong, Cheng Xiaoman, Tian Haijun, and Zhao Geng
- 094006 Spherical distribution structure of the semiconductor laser diode stack for pumping (4 pages)**  
Zhao Tianzhuo, Yu Jin, Liu Yang, Zhang Xue, Ma Yunfeng, and Fan Zhongwei

(Continued on inside back cover)

- 094007 Pb(Zr<sub>0.52</sub>Ti<sub>0.48</sub>)O<sub>3</sub> memory capacitor on Si with a polycrystalline silicon/SiO<sub>2</sub> stacked buffer layer (4 pages)**  
Cai Daolin, Li Ping, Zhai Yahong, Song Zhitang, and Chen Houpeng
- 094008 Optimization of Al<sub>2</sub>O<sub>3</sub>/SiN<sub>x</sub> stacked antireflection structures for N-type surface-passivated crystalline silicon solar cells (4 pages)**  
Wu Dawei, Jia Rui, Ding Wuchang, Chen Chen, Wu Deqi, Chen Wei, Li Haofeng, Yue Huihui, and Liu Xinyu
- 094009 Built-in electric field thickness design for betavoltaic batteries (4 pages)**  
Chen Haiyang, Li Darang, Yin Jianhua, and Cai Shengguo
- 094010 Sensitive detection of infrared photons using a high-*Q* microcantilever (4 pages)**  
Zhang Fengxin, Zhu Yinfang, Yang Jinling, and Cao Lixin
- 094011 An SPICE model for phase-change memory simulations (4 pages)**  
Li Xi, Song Zhitang, Cai Daolin, Chen Xiaogang, and Chen Houpeng

#### **SEMICONDUCTOR INTEGRATED CIRCUITS**

- 095001 A low power CMOS 3.3 Gbps continuous-time adaptive equalizer for serial link (8 pages)**  
Ju Hao, Zhou Yumei, and Zhao Jianzhong
- 095002 A low power 8th order elliptic low-pass filter for a CMMB tuner (7 pages)**  
Gong Zheng, Chen Bei, Hu Xueqing, Shi Yin, and Dai Fa Foster
- 095003 A broadband GaAs MMIC frequency doubler on left-handed nonlinear transmission lines (4 pages)**  
Dong Junrong, Huang Jie, Tian Chao, Yang Hao, and Zhang Haiying
- 095004 Design and optimization of a 2.4 GHz RF front-end with an on-chip balun (6 pages)**  
Xu Hua, Wang Lei, Shi Yin, and Dai Fa Foster
- 095005 A 0.18 μm CMOS single-inductor single-stage quadrature frontend for GNSS receiver (7 pages)**  
Li Bing, Zhuang Yiqi, Han Yeqi, Xing Xiaoling, Li Zhenrong, and Long Qiang
- 095006 CMOS high linearity PA driver with an on-chip transformer for W-CDMA application (6 pages)**  
Fu Jian, Mei Niansong, Huang Yumei, and Hong Zhiliang
- 095007 A highly linear baseband  $G_m$ -C filter for WLAN application (7 pages)**  
Yang Lijun, Gong Zheng, Shi Yin, and Chen Zhiming
- 095008 Effect of charge sharing on the single event transient response of CMOS logic gates (6 pages)**  
Duan Xueyan, Wang Liyun, and Lai Jinmei
- 095009 An improved single-loop sigma-delta modulator for GSM applications (8 pages)**  
Li Hongyi, Wang Yuan, Jia Song, and Zhang Xing
- 095010 An ultra high-speed 8-bit timing interleaved folding & interpolating analog-to-digital converter with digital foreground calibration technology (7 pages)**  
Zhang Zhengping, Wang Yonglu, Huang Xingfa, Shen Xiaofeng, Zhu Can, Zhang Lei, Yu Jinshan, and Zhang Ruitao
- 095011 Hierarchical distribution network for low skew and high variation-tolerant bufferless resonant clocking (7 pages)**  
Xu Yi, Chen Shuming, and Liu Xiangyuan

#### **SEMICONDUCTOR TECHNOLOGY**

- 096001 Influence of the initial transient state of plasma and hydrogen pre-treatment on the interface properties of a silicon heterojunction fabricated by PECVD (4 pages)**  
Wu Chunbo, Zhou Yuqin, Li Guorong, and Liu Fengzhen