

Journal of Semiconductors

Volume 35 Number 4 April 2014

INVITED PAPERS

- 041001 Solid State Physics View of Liquid State Chemistry III. Electrical Conductance of Pure and Impure Water**
(20 pages)
Jie Binbin and Sah Chihtang

SEMICONDUCTOR PHYSICS

- 042001 Correlation between crystallite size–optical gap energy and precursor molarities of ZnO thin films**
(4 pages)
S. Benramache, O. Belahssen, A. Guettaf, and A. Arif
- 042002 Metal dopants in HfO₂-based RRAM: first principle study** *(7 pages)*
Zhao Yuanyang, Wang Jiayu, Xu Jianbin, Yang Fei, Liu Qi, and Dai Yuehua

SEMICONDUCTOR MATERIALS

- 043001 Fabrication and electrical properties of p-CuAlO₂/(n-, p-)Si heterojunctions** *(5 pages)*
Wu Suzhen, Deng Zanhong, Dong Weiwei, Shao Jingzhen, and Fang Xiaodong
- 043002 Modified textured surface MOCVD-ZnO:B transparent conductive layers for thin-film solar cells**
(5 pages)
Chen Xinliang, Yan Congbo, Geng Xinhua, Zhang Dekun, Wei Changchun, Zhao Ying, and Zhang Xiaodan
- 043003 Surface-plasmon-enhanced light transmission intensity with a basic grating in GaN-based LED** *(6 pages)*
Li Linqing and Lü Yanwu

SEMICONDUCTOR DEVICES

- 044001 Performance analysis of silicon nanowire transistors considering effective oxide thickness of high-*k* gate dielectric** *(4 pages)*
S. Theodore Chandra and N. B. Balamurugan
- 044002 DC and RF characteristics of enhancement-mode InAlN/GaN HEMT with fluorine treatment** *(4 pages)*
Song Xubo, Gu Guodong, Dun Shaobo, Lü Yuanjie, Han Tingting, Wang Yuangang, Xu Peng, and Feng Zhihong
- 044003 3-D simulation of angled strike heavy-ion induced charge collection in silicon–germanium heterojunction bipolar transistors** *(6 pages)*
Zhang Jinxin, Guo Hongxia, Wen Lin, Guo Qi, Cui Jiangwei, Wang Xin, Deng Wei, Zhen Qiwen, Fan Xue, and Xiao Yao
- 044004 The impact of quantum confinement on the electrical characteristics of ultrathin-channel GeOI MOS-FETs** *(6 pages)*
Fan Minmin, Xu Jingping, Liu Lu, and Bai Yurong
- 044005 Numerical model of tandem organic light-emitting diodes based on a transition metal oxide interconnector layer** *(9 pages)*
Lu Feiping, Peng Yingquan, and Xing Yongzhong
- 044006 Storage life of power switching transistors based on performance degradation data** *(6 pages)*
Qi Haochun, Zhang Xiaoling, Xie Xuesong, Lü Changzhi, Chen Chengju, and Zhao Li

(Continued on inside back cover)

- 044007 Electron-leakage-related low-temperature light emission efficiency behavior in GaN-based blue light-emitting diodes (4 pages)**

Yan Dawei, Li Lisha, Ren Jian, Wang Fuxue, Yang Guofeng, Xiao Shaoqing, and Gu Xiaofeng

- 044008 The total ionizing dose effect in 12-bit, 125 MSPS analog-to-digital converters (5 pages)**

Wu Xue, Lu Wu, Li Yudong, Guo Qi, Wang Xin, Zhang Xingyao, Yu Xin, and Ma Wuying

SEMICONDUCTOR INTEGRATED CIRCUITS

- 045001 A high linearity SiGe HBT LNA for GPS receiver (6 pages)**

Luo Yanbin, Shi Jian, Ma Chengyan, Gan Yebing, and Qian Min

- 045002 High efficiency and low electromagnetic interference boost DC–DC converter (8 pages)**

Li Yajun, Lai Xinquan, Ye Qiang, and Yuan Bing

- 045003 An integrated power divider implemented in GaAs technology (4 pages)**

Du Zebao, Yang Hao, Zhang Haiying, and Zhu Min

- 045004 A 83 GHz InP DHBT static frequency divider (4 pages)**

Zhang Youtao, Li Xiaopeng, Zhang Min, Cheng Wei, and Chen Xinyu

- 045005 A dynamic-biased dual-loop-feedback CMOS LDO regulator with fast transient response (9 pages)**

Wang Han and Sun Maomao

- 045006 A low voltage low power up-conversion mixer for WSN application (5 pages)**

Wu Chenjian, Li Zhiqun, and Sun Ge

- 045007 A 16-bit sigma–delta modulator applied in micro-machined inertial sensors (6 pages)**

Xu Honglin, Fu Qiang, Liu Hongna, Yin Liang, Wang Pengfei, and Liu Xiaowei

- 045008 Compact trimming design of a high-precision reference (4 pages)**

Ren Guodong, Zhao Shifang, Pu Zhongshen, and Wei Zhiqiang

- 045009 A single-channel 10-bit 160 MS/s SAR ADC in 65 nm CMOS (8 pages)**

Lu Yuxiao, Sun Lu, Li Zhe, and Zhou Jianjun

- 045010 A method for timing constrained redundant via insertion (5 pages)**

Wang Junping, Xu Dan, and Su Yongbang

- 045011 Active quenching circuit for a InGaAs single-photon avalanche diode (6 pages)**

Zheng Lixia, Wu Jin, Shi Longxing, Xi Shuiqing, Liu Siyang, and Sun Weifeng

SEMICONDUCTOR TECHNOLOGY

- 046001 Removal of residual CuO particles on the post CMP wafer surface of multi-layered copper (8 pages)**

Li Yan, Sun Ming, Niu Xinhuan, Liu Yuling, He Yangang, Li Hailong, Wang Aochen, and Li Hongbo

- 046002 Thermal conductivity of PECVD silicon-rich silicon nitride films measured with a $\text{SiO}_2/\text{Si}_x\text{N}_y$ bimaterial microbridge test structure (4 pages)**

Han Jianqiang, Li Yan, Li Senlin, and Li Qing