

# Journal of Semiconductors

Volume 34 Number 1 January 2013

## SEMICONDUCTOR PHYSICS

- 012001 **Properties of a polaron in a quantum dot: a squeezed-state variational approach (5 pages)**  
Yin Jiwen, Li Weiping, and Yu Yifu

- 012002 **Calculation of surface acoustic waves in a multilayered piezoelectric structure (6 pages)**  
Zhang Zuwei, Wen Zhiyu, and Hu Jing

## SEMICONDUCTOR MATERIALS

- 013001 **Ultrasonic spray pyrolysis deposition of SnSe and SnSe<sub>2</sub> using a single spray solution (4 pages)**  
Jorge Sergio Narro-Rios, Manoj Ramachandran, Dalia Martínez-Escobar, and Aarón Sánchez-Juárez
- 013002 **First-principles calculation on the concentration of intrinsic defects in 4H-SiC (4 pages)**  
Cheng Ping, Zhang Yuming, and Zhang Yimen
- 013003 **Cu doped AlSb polycrystalline thin films (3 pages)**  
Wu Lili, Jin Shuo, Zeng Guanggen, Zhang Jingquan, Li Wei, Feng Lianghuan, Li Bing, and Wang Wenwu

## SEMICONDUCTOR DEVICES

- 014001 **Effect of tunneling current on the noise characteristics of a 4H-SiC Read Avalanche diode (5 pages)**  
Deepak K. Karan, Pranati Panda, and G. N. Dash
- 014002 **Analysis of the subthreshold characteristics of vertical tunneling field effect transistors (7 pages)**  
Han Zhongfang, Ru Guoping, and Ruan Gang
- 014003 **Capacitance and conductance dispersion in AlGaN/GaN heterostructure (4 pages)**  
Yan Dawei, Wang Fuxue, Zhu Zhaomin, Cheng Jianmin, and Gu Xiaofeng
- 014004 **Transconductance bimodal effect of PDSOI submicron H-gate MOSFETs (6 pages)**  
Mei Bo, Bi Jinshun, Bu Jianhui, and Han Zhengsheng
- 014005 **SPT<sup>+</sup>-IGBT characteristics and optimization (4 pages)**  
Chu Weili, Zhu Yangjun, Zhang Jie, and Hu Aibin
- 014006 **Increasing substrate resistance to improve the turn-on uniformity of a high-voltage multi-finger GG-nLDMOS (4 pages)**  
He Chuan, Jiang Lingli, Fan Hang, and Zhang Bo
- 014007 **A novel latch-up free SCR-LDMOS with high holding voltage for a power-rail ESD clamp (5 pages)**  
Pan Hongwei, Liu Siyang, and Sun Weifeng
- 014008 **Influence of Cu<sub>x</sub>S back contact on CdTe thin film solar cells (3 pages)**  
Lei Zhi, Feng Lianghuan, Zeng Guanggen, Li Wei, Zhang Jingquan, Wu Lili, and Wang Wenwu

(Continued on inside back cover)

## SEMICONDUCTOR INTEGRATED CIRCUITS

- 015001 A novel broadband power amplifier in SiGe HBT technology (*5 pages*)  
Li Wenyuan and Zhang Qian
- 015002 A fully integrated multi-standard frequency synthesizer for GNSS receivers with cellular network positioning capability (*8 pages*)  
Li Bin, Fan Xiangning, Li Wei, Zhang Li, and Wang Zhigong
- 015003 A wideband current-commutating passive mixer for multi-standard receivers in a  $0.18 \mu\text{m}$  CMOS (*9 pages*)  
Bao Kuan, Fan Xiangning, Li Wei, and Wang Zhigong
- 015004 A wideband  $0.13 \mu\text{m}$  CMOS LC-VCO for IMT-advanced and UWB applications (*6 pages*)  
Tang Xin, Huang Fengyi, Tang Xusheng, and Shao Mingchi
- 015005 Design of a novel mixer with high gain and linearity improvement for DRM/DAB applications (*5 pages*)  
Wu Yiqiang, Wang Zhigong, Xu Jian, Wang Jian, Zhang Ouli, and Tang Lu
- 015006 Total ionizing dose effects on a radiation-induced BiMOS analog-to-digital converter (*6 pages*)  
Wu Xue, Lu Wu, Wang Yiyuan, Xu Jialing, Zhang Leqing, Lu Jian, Yu Xin, Zhang Xingyao, and Hu Tianle
- 015007 Monolithic quasi-sliding-mode controller for SIDO buck converter with a self-adaptive free-wheeling current level (*7 pages*)  
Wu Xiaobo, Liu Qing, Zhao Menglian, and Chen Mingyang
- 015008 A wideband frequency synthesizer with VCO and AFC co-design for fast calibration (*6 pages*)  
Lou Liheng, Sun Lingling, Gao Haijun, and Zhan Haiting
- 015009 A new LTPS TFT AC pixel circuit for an AMOLED (*5 pages*)  
Zhang Yongwen and Chen Wenbin
- 015010 An 11-bit ENOB, accuracy-programmable, and non-calibrating time-mode SAR ADC (*11 pages*)  
Fan Hua, Han Xue, Wei Qi, and Yang Huazhong