## Journal of Semiconductors



Volume 37 Number 6 June 2016

## INVITED REVIEW PAPERS

061001 Advances and prospects in nitrides based light-emitting-diodes (14 pages)
Li Jinmin, Liu Zhe, Liu Zhiqiang, Yan Jianchang, Wei Tongbo, Yi Xiaoyan, and Wang Junxi

## SEMICONDUCTOR MATERIALS

- Ochloride-based fast homoepitaxial growth of 4H-SiC films in a vertical hot-wall CVD (6 pages)
  Yan Guoguo, Zhang Feng, Niu Yingxi, Yang Fei, Liu Xingfang, Wang Lei, Zhao Wanshun, Sun Guosheng, and Zeng Yiping
- Evaluation of four inch diameter VGF-Ge substrates used for manufacturing multi-junction solar cell (6 pages)
   Cao Kewei, Liu Tong, Liu Jingming, Xie Hui, Tao Dongyan, Zhao Youwen, Dong Zhiyuan, and Hui Feng
- 063003 Cubic AlN thin film formation on quartz substrate by pulse laser deposition (6 pages)

  Zheng Biju and Hu Wen
- 063004 Influence of tension-twisting deformations and defects on optical and electrical properties of B, N doped carbon nanotube superlattices (6 pages)
  Liu Guili, Jiang Yan, Song Yuanyuan, Zhou Shuang, and Wang Tianshuang

## SEMICONDUCTOR DEVICES

- O64001 Comparison between Pt/TiO<sub>2</sub>/Pt and Pt/TaO<sub>X</sub>/TaO<sub>Y</sub>/Pt based bipolar resistive switching devices (13 pages)

  Patrick W. C. Ho, Firas Odai Hatem, Haider Abbas F. Almurib, and T. Nandha Kumar
- 064002 Large signal and noise properties of heterojunction Al<sub>x</sub>Ga<sub>1-x</sub>As/GaAs DDR IMPATTs (8 pages)
  Suranjana Banerjee and Monojit Mitra
- O64003 Analog and radio-frequency performance analysis of silicon-nanotube MOSFETs (4 pages)
  Pramod Kumar Tiwari, Mukesh Kumar, Ramavathu Sakru Naik, and Gopi Krishna Saramekala
- 064004 Enhancement of solar cells parameters by periodic nanocylinders (8 pages)
  Najdia Benaziez, Abdelhamid Ounissi, and Safia Benaziez
- 064005 Finite element analysis of expansion-matched submounts for high-power laser diodes packaging (5 pages)
  Ni Yuxi, Ma Xiaoyu, Jing Hongqi, and Liu Suping
- 064006 Electrical properties of Ge metal—oxide—semiconductor capacitors with high-k La<sub>2</sub>O<sub>3</sub> gate dielectric incorporated by N or/and Ti (4 pages)

  Xu Huoxi and Xu Jingping
- 064007 p<sup>+</sup>-n<sup>-</sup>-n<sup>+</sup>-type power diode with crystalline/nanocrystalline Si mosaic electrodes (6 pages)
  Wei Wensheng and Zhang Chunxi
  •

| 064008 | Load-pull measurement analysis of AlGaN/GaN HEMT taking into account number of gate fingers (5 pages)   |
|--------|---|
|        | Pongthavornkamol Tiwat, Liu Guoguo, Yuan Tingting, Zheng Yingkui, and Liu Xinyu   |
| 064009 | Effects of the fluorine plasma treatment on low-density drain AlGaN/GaN HEMT (5 pages) Wang Chong, Wei Xiaoxiao, He Yunlong, Zheng Xuefeng, Ma Xiaohua, Zhang Jincheng, and Hao Yue   |
| 064010 | Junction-temperature estimation in AlGaInP light-emitting diodes using the luminescence spectra method (4 pages)  Wen Jing, Wen Yumei, Li Ping, and Wang Sanshan  |
| 064011 | The investigation of the zero temperature coefficient point of power MOSFET (5 pages)  Zhang Bowen, Zhang Xiaoling, Xiong Wenwen, She Shuojie, and Xie Xuesong  |
| 064012 | Low-frequency noise characteristics in the MOSFETs processed in 65 nm technology (6 pages) Liu Yuan, Liu Yurong, He Yujuan, Li Bin, En Yunfei, and Fang Wenxiao   |
| 064013 | High-performance enhancement-mode AlGaN/GaN MOS-HEMTs with fluorinated stack gate dielectrics and thin barrier layer (4 pages)  Gao Tao, Xu Ruimin, Zhang Kai, Kong Yuechan, Zhou Jianjun, Kong Cen, Yu Xinxin, Dong Xun, and Chen Tangsheng      |
| 064014 | A superjunction structure using high-k insulator for power devices: theory and optimization (6 pages) Huang Mingmin and Chen Xingbi   |
| 064015 | Evaluation of light extraction efficiency for the light-emitting diodes based on the transfer matrix formalism and ray-tracing method (7 pages)  An Pingbo, Wang Li, Lu Hongxi, Yu Zhiguo, Liu Lei, Xi Xin, Zhao Lixia, Wang Junxi, and Li Jinmin |
| 064016 | Total dose responses and reliability issues of 65 nm NMOSFETs (7 pages) Yu Dezhao, Zheng Qiwen, Cui Jiangwei, Zhou Hang, Yu Xuefeng, and Guo Qi   |
|        | SEMICONDUCTOR INTEGRATED CIRCUITS   |
| 065001 | A 10 b 50 MS/s two-stage pipelined SAR ADC in 180 nm CMOS (5 pages)<br>Shen Yi, Liu Shubin, and Zhu Zhangming   |
| 065002 | A 14-bit 40-MHz analog front end for CCD application (11 pages) Wang Jingyu, Zhu Zhangming, and Liu Shubin  |
| 065003 | DSOI—a novel structure enabling adjust circuit dynamically (4 pages) Gao Chuang, Zhao Xing, Zhao Kai, Gao Jiantou, Xie Bingqing, Yu Fang, and Luo Jiajun  |
| 065004 | A CMOS detection chip for amperometric sensors with chopper stabilized incremental $\Delta\Sigma$ ADC (6 pages) Chen Min, Liu Yuntao, Xiao Jingbo, and Chen Jie   |
| 065005 | An S/H circuit with parasitics optimized for IF-sampling (5 pages)  Zheng Xuqiang, Li Fule, Wang Zhijun, Li Weitao, Jia Wen, Wang Zhihua, and Yue Shigang   |
| 065006 | A double-stage start-up structure to limit the inrush current used in current mode charge pump (10 pages) Liu Cong, Lai Xinquan, Du Hanxiao, and Chi Yuan   |
| 065007 | Design and performances of a low-noise and radiation-hardened readout ASIC for CdZnTe detectors (7 pages)  Gan Bo, Wei Tingcun, Gao Wu, and Hu Yongcai.   |