

Journal of Semiconductors

Volume 36 Number 6 June 2015

SEMICONDUCTOR PHYSICS

- 062001** **Electrical properties of $^{70}\text{Ge}:\text{Ga}$ near the metal–insulator transition** (5 pages)
M Errai, A El kaaouachi, and H El idrissi
- 062002** **Leakage of photocurrent: an alternative view on I – V curves of solar cells** (5 pages)
Zhou Taofer, Xiong Kanglin, Zhang Min, Liu Lei, Tian Feifei, Zhang Zhiqiang, Gu Hong, Huang Jun, Wang Jianfeng, Dong Jianrong, and Xu Ke

SEMICONDUCTOR MATERIALS

- 063001** **Sub-stoichiometric functionally graded titania fibres for water-splitting applications** (6 pages)
Vaia Adamaki, A. Sergejevs, C. Clarke, F. Clemens, F. Marken, and C. R. Bowen
- 063002** **Crystallization kinetics of $\text{Sn}_{40}\text{Se}_{60}$ thin films for phase change memory applications** (4 pages)
Joshua M. Kundu, Patrick M. Karimi, and Walter K. Njoroge
- 063003** **Impact of GaN transition layers in the growth of GaN epitaxial layer on silicon** (4 pages)
Zhao Danmei, Zhao Degang, Jiang Desheng, Liu Zongshun, Zhu Jianjun, Chen Ping, Liu Wei, Li Xiang, and Shi Ming
- 063004** **Effects of a carbon implant on thermal stability of $\text{Ni}_{0.95}(\text{Pt}_{0.05})\text{Si}$** (4 pages)
Feng Shuai, Zhao Lichuan, Zhang Qingzhu, Yang Pengpeng, Tang Zhaoyun, Yan Jiang, and Wu Cinan
- 063005** **β - FeSi_2 films prepared on 6H-SiC substrates by magnetron sputtering** (6 pages)
Li Hong, Pu Hongbin, Zheng Chunlei, and Chen Zhiming

SEMICONDUCTOR DEVICES

- 064001** **Synthesis and electroluminescence properties of tris-[5-choloro-8-hydroxyquinoline] aluminum $\text{Al}(\text{5-Clq})_3$** (4 pages)
Rahul Kumar, Parag Bhargava, Ritu Srivastava, and Priyanka Tyagi
- 064002** **Heterojunction DDR THz IMPATT diodes based on $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ material system** (8 pages)
Suranjana Banerjee and Monojit Mitra
- 064003** **Analysis of charge density and Fermi level of $\text{AlInSb}/\text{InSb}$ single-gate high electron mobility transistor** (6 pages)
S. Theodore Chandra, N. B. Balamurugan, M. Bhuvaneswari, N. Anbuselvan, and N. Mohankumar
- 064004** **Numerical investigation of a double-junction a-SiGe thin-film solar cell including the multi-trench region** (5 pages)
K. Kacha, F. Djeflal, H. Ferhati, D. Arar, and M. Meguellati
- 064005** **Si/SiC-based DD hetero-structure IMPATTs as MM-wave power-source: a generalized large-signal analysis** (6 pages)
Moumita Mukherjee, P. R. Tripathy, and S. P. Pati
- 064006** **Comparison of on-wafer calibrations for THz InP-based PHEMTs applications** (4 pages)
Wang Zhiming, Huang Hui, Hu Zhifu, Zhao Zhuobin, Wang Xudong, Luo Xiaobin, Liu Jun, Yang Songyuan, and Lü Xin

(Continued on inside back cover)

- 064007 Model of radiation-induced gain degradation of NPN bipolar junction transistor at different dose rates** (4 pages)
Zhao Qifeng, Zhuang Yiqi, Bao Junlin, and Hu Wei
- 064008 Estimation of the optical loss in bent-waveguide superluminescent diodes by an analytical method** (4 pages)
An Qi, Jin Peng, and Wang Zhanguo
- 064009 Micro packaged MEMS pressure sensor for intracranial pressure measurement** (4 pages)
Liu Xiong, Yao Yan, Ma Jiahao, Zhang Yanhang, Wang Qian, Zhang Zhaohua, and Ren Tianling
- 064010 Characteristics of HfO₂/Hf-based bipolar resistive memories** (5 pages)
Bi Jinshun and Han Zhengsheng
- 064011 Thermal simulation of flexible LED package enhanced with copper pillars** (4 pages)
Liu Yang, Stanley Y. Y. Leung, Cell K.Y. Wong, Cadmus A. Yuan, Zhang Guoqi, and Sun Fenglian
- 064012 Direct-bonded four-junction GaAs solar cells** (4 pages)
Shen Jingman, Sun Lijie, Chen Kaijian, Zhang Wei, and Wang Xunchun
- 064013 Design of high reliability RF-LDMOS by suppressing the parasitic bipolar effect using enhanced p-well and double epitaxy** (6 pages)
Xu Xiangming, Huang Jingfeng, Yu Han, Qian Wensheng, Zhou Zhengliang, Han Bo, Wang Yong, Wang Pengfei, and David Wei Zhang

SEMICONDUCTOR INTEGRATED CIRCUITS

- 065001 Propagation delay and power dissipation for different aspect ratio of single-walled carbon nanotube bundled TSV** (6 pages)
Tanu Goyal, Manoj Kumar Majumder, and Brajesh Kumar Kaushik
- 065002 Millimeter wave broadband high sensitivity detectors with zero-bias Schottky diodes** (5 pages)
Yao Changfei, Zhou Ming, Luo Yunsheng, and Xu Conghai
- 065003 A novel dual-feed low-dropout regulator** (5 pages)
Duan Zhikui, Hu Jianguo, Ding Yi, Lu Chong, Ding Yanyu, Wang Deming, and Tan Hongzhou
- 065004 A high linearity X-band SOI CMOS digitally-controlled phase shifter** (8 pages)
Chen Liang, Chen Xinyu, Zhang Youtao, Li Zhiquan, and Yang Lei
- 065005 A low-power CMOS WIA-PA transceiver with a high sensitivity GFSK demodulator** (8 pages)
Yang Tao, Jiang Yu, Liu Shengyou, Guo Guiliang, and Yan Yuepeng
- 065006 A high speed direct digital frequency synthesizer based on multi-channel structure** (5 pages)
Yuan Ling, Zhang Qiang, and Shi Yin
- 065007 A 320 mV, 6 kb subthreshold 10T SRAM employing voltage lowering techniques** (6 pages)
Cai Jiangzheng, Zhang Sumin, Yuan Jia, Shang Xinchao, Chen Liming, and Hei Yong
- 065008 14-bit 100 MS/s 121 mW pipelined ADC** (6 pages)
Chen Yongzhen, Chen Chixiao, Feng Zemin, Ye Fan, and Ren Junyan
- 065009 A fully integrated CMOS VCXO-IC with low phase noise, wide tuning range and high tuning linearity** (8 pages)
Yang Yanjun and Zeng Yun
- 065010 A Ku-band wide-tuning-range high-output-power VCO in InGaP/GaAs HBT technology** (5 pages)
Zhang Jincan, Zhang Yuming, Lü Hongliang, Zhang Yimen, Liu Bo, Zhang Leiming, and Xiang Fei

SEMICONDUCTOR TECHNOLOGY

- 066001 Benzotriazole removal on post-Cu CMP cleaning** (4 pages)
Tang Jiying, Liu Yuling, Sun Ming, Fan Shiyan, and Li Yan