

# Journal of Semiconductors



Volume 38 Number 10 October 2017

## Special Topic on Devices and Circuits for Wearable and IoT Systems

- 101001** Preface to the Special Topic on Devices and Circuits for Wearable and IoT Systems (1 page)  
Zhihua Wang, Yong Hei, and Zhangming Zhu
- 105001** High power-efficient asynchronous SAR ADC for IoT devices (7 page)  
Beichen Zhang, Bingbing Yao, Liyuan Liu, Jian Liu, and Nanjian Wu
- 105002** A high-efficiency low-voltage class-E PA for IoT applications in sub-1 GHz frequency range (6 page)  
Chenyi Zhou, Zhenghao Lu, Jiangmin Gu, and Xiaopeng Yu
- 105003** The energy-efficient implementation of an adaptive-filtering-based QRS complex detection method for wearable devices (7 page)  
Shudong Tian, Jun Han, Jianwei Yang, and Xiaoyang Zeng
- 105004** An error-based micro-sensor capture system for real-time motion estimation (8 page)  
Lin Yang, Shiwei Ye, Zhibo Wang, Zhipei Huang, Jiankang Wu, Yongmei Kong, and Li Zhang
- 105005** Energy-efficient digital and wireless IC design for wireless smart sensing (9 page)  
Jun Zhou, Xiongchuan Huang, Chao Wang, Tony Tae-Hyoung Kim, and Yong Lian

## SEMICONDUCTOR MATERIALS

- 103001** Manipulation of morphology and structure of the top of GaAs nanowires grown by molecular-beam epitaxy (7 page)  
Lixia Li, Dong Pan, Xuezhe Yu, Hyok So, and Jianhua Zhao
- 103002** Structural characterization of SiC nanoparticles (4 page)  
Baoxing Sun, Ruobing Xie, Cun Yu, Cheng Li, and Hongjie Xu

## SEMICONDUCTOR DEVICES

- 104001** Mechanism of oxide thickness and temperature dependent current conduction in  $n^+$ -polySi/SiO<sub>2</sub>/p-Si structures — a new analysis (6 pages)  
Piyas Samanta
- 104002** Analysis of structural, optical and electrical properties of metal/p-ZnO-based Schottky diode (7 pages)  
Lucky Agarwal, Shweta Tripathi, and P. Chakrabarti
- 104003** Analysis and impact of process variability on performance of junctionless double gate VeSFET (7 pages)  
T. Chaudhary and G. Khanna

(Continued on inside back cover)

**104004 Thermal effect analysis of silicon microring optical switch for on-chip interconnect (5 pages)**  
Xiongfeng Fang and Lin Yang

**104005 Memristor interpretations based on constitutive relations (4 pages)**  
Wei Wu and Ning Deng

#### **SEMICONDUCTOR INTEGRATED CIRCUITS**

**105006 High-speed and low-power repeater for VLSI interconnects (5 pages)**  
A. Karthikeyan and P. S. Mallick

**105007 An 11-bit 200 MS/s subrange SAR ADC with low-cost integrated reference buffer (6 pages)**  
Xiuju He, Xian Gu, Weitao Li, Hanjun Jiang, Fule Li, and Zhihua Wang

**105008 High-resolution 1 MS/s sub-2 radix split-capacitor SAR ADC (6 pages)**  
Chao Cao and Zhangming Zhu

**105009 A novel interface circuit for triboelectric nanogenerator (5 pages)**  
Wuqi Yu, Jiahao Ma, Zhaohua Zhang, and Tianling Ren

**105010 Equivalent radiation source of 3D package for electromagnetic characteristics analysis (6 pages)**  
Jun Li, Xingchang Wei, and Yufei Shu

#### **SEMICONDUCTOR TECHNOLOGY**

**106001 An effective approach to improve split-gate flash product data retention (4 pages)**  
Dailong Wei, Zigui Cao, and Zhilin Tang