

## Special Topic on Integrated Circuits, Technologies and Applications

Guest editors: Zheng Wang, Xiaoyan Gui, Lin Cheng, and Nanjian Wu

### ■ EDITORIAL

#### 060101 **Preface to Special Topic on Integrated Circuits, Technologies and Applications**

[2 page] Zheng Wang, Xiaoyan Gui, Lin Cheng, and Nanjian Wu

### ■ SPECIAL TOPIC ARTICLES

#### 062201 **A 16-bit 18-MSPS flash-assisted SAR ADC with hybrid synchronous and asynchronous control logic**

[10 pages] Junyao Ji, Xinao Ji, Ziyu Zhou, Zhichao Dai, Xuhui Chen, Jie Zhang, Zheng Jiang, and Hong Zhang

#### 062202 **A frequency servo SoC with output power stabilization loop technology for miniaturized atomic clocks**

[10 pages] Hongyang Zhang, Xinlin Geng, Zonglin Ye, Kailei Wang, Qian Xie, and Zheng Wang

#### 062203 **An NMOS output-capacitorless low-dropout regulator with dynamic-strength event-driven charge pump**

[12 pages] Yiling Xie, Baochuang Wang, Dihu Chen, and Jianping Guo

#### 062204 **A 28/56 Gb/s NRZ/PAM-4 dual-mode transceiver with 1/4 rate reconfigurable 4-tap FFE and half-rate slicer in a 28-nm CMOS**

[12 pages] Yukun He, Zhao Yuan, Kanan Wang, Renjie Tang, Yunxiang He, Xian Chen, Zhengyang Ye, and Xiaoyan Gui

### ■ REVIEWS

#### 061301 **Neuromorphic circuits based on memristors: endowing robots with a human-like brain**

[17 pages] Xuemei Wang, Fan Yang, Qing Liu, Zien Zhang, Zhixing Wen, Jiangang Chen, Qirui Zhang, Cheng Wang, Ge Wang, and Fucai Liu

#### 061701 **Complementary memtransistors for neuromorphic computing: How, what and why**

[17 pages] Qi Chen, Yue Zhou, Weiwei Xiong, Zirui Chen, Yasai Wang, Xiangshui Miao, and Yuhui He

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[6 pages] Tiantian Luan, Sen Huang, Guanjun Jing, Jie Fan, Haibo Yin, Xinguo Gao, Sheng Zhang, Ke Wei, Yankui Li, Qimeng Jiang, Xinhua Wang, Bin Hou, Ling Yang, Xiaohua Ma, and Xinyu Liu

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[5 pages] Yunfei Xu, Weijiang Li, Yu Ma, Quanyong Lu, Jinchuan Zhang, Shenqiang Zhai, Ning Zhuo, Junqi Liu, Shuman Liu, Fengmin Cheng, Lijun Wang, and Fengqi Liu

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**062501 Control of GaN inverted pyramids growth on c-plane patterned sapphire substrates**

[5 pages] Luming Yu, Xun Wang, Zhibiao Hao, Yi Luo, Changzheng Sun, Bing Xiong, Yanjun Han, Jian Wang, Hongtao Li, Lin Gan, and Lai Wang

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