

集成电 路与嵌入式系 统

第 25 卷 第 3 期 2025 年 3 月

目 次

封面文章

低压超大功率 PCB 电源完整性分析

..... 陈光, 王刚, 贾春波 (1)

研究论文

基于机器视觉辅助避障的导盲手杖设计

..... 曹钰, 刘政, 刘景行, 王远 (9)

可全域表达的高精度低延时脉冲网络转换方法

..... 马钟, 徐克欣, 李申, 王钟犀 (15)

嵌入式测试平台的多 DAG 实时调度算法

..... 田文韬, 李晓明 (24)

MIPS 处理器核及其定制化 AXI 总线设计

..... 周艳娇, 贾艳双, 杜军 (33)

基于 FPGA 的小型动态模拟源设计

..... 程文俊, 陈华中, 薛晓马, 刘可佳, 程金龙 (41)

基于固有时间尺度分解的跳频信号降噪算法

..... 胡洪 (47)

T 型栅 PMOS 器件跨导双峰效应的研究

..... 彭宏伟, 赵小寒, 陈祎纯, 陈睿凌, 王青松, 徐大为 (54)

DDS 技术在质谱仪射频电源上的应用

..... 纪志敏, 沈辉, 侍尉, 任维松, 陈延龙, 景加荣 (59)

基于云存储的电子档案数据跨域安全检索算法研究

..... 王辉, 张晓明, 鲍丽芳, 惠安, 肖嵒 (66)

基于北斗和蓝牙的室内外协同定位系统

..... 罗华峰, 王刘旺, 左浩然, 赵华, 石瑞达 (73)

广 告

华大九天 A1

INTEGRATED CIRCUITS AND EMBEDDED SYSTEMS

Vol. 25 No. 3 March 2025

CONTENTS

Cover Article

Analysis of power integrity for low-voltage high-power PCB

..... CHEN Guang, WANG Gang, JIA Chunbo (1)

Research Paper

Design of guide cane based on machine vision assisted obstacle avoidance

..... CAO Yu, LIU Mei, LIU Jingxing, WANG Yuan (9)

A high-precision, low-latency conversion method with globally representing spiking neural network

..... MA Zhong, XU Kexin, LI Shen, WANG Zhongxi (15)

Multi-DAG real-time scheduling algorithm for embedded test platform

..... TIAN Wentao, LI Xiaoming (24)

MIPS processor core and customized AXI bus design

..... ZHOU Yanjiao, JIA Yanshuang, DU Jun (33)

Design of small dynamic analog source based on FPGA

..... CHENG Wenjun, CHEN Huazhong, XUE Xiaoma, LIU Kejia, CHENG Jinlong (41)

Algorithm for frequency-hopping signal de-noising based on intrinsic time-scale decomposition

..... HU Hong (47)

Study on modeling of transconductance bimodal effect in T-gate PMOS

..... PENG Hongwei, ZHAO Xiaohan, CHEN Yichun, CHEN Ruiling, WANG Qingsong, XU Dawei (54)

Application of DDS on radio frequency power supply of mass spectrometer

..... JI Zhimin, SHEN Hui, SHI Wei, REN Weisong, CHEN Yanlong, JING Jiarong (59)

Research on cross-domain secure retrieval algorithm of electronic archives data based on cloud storage

..... WANG Hui, ZHANG Xiaoming, BAO Lifang, HUI An, XIAO Lan (66)

Indoor and outdoor collaborative positioning system based on Beidou and Bluetooth

..... LUO Huafeng, WANG Liuwang, ZUO Haoran, ZHAO Hua, SHI Ruida (73)