

2026 IEEE 38th International Symposium on Power Semiconductor Devices and ICs (ISPSD 2026)

**Las Vegas, Nevada, USA
24-28 May 2026**

IEEE Catalog Number: CFP26ISP-POD
ISBN: 979-8-3315-7784-1



Copyright © 2026, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP26ISP-POD
ISBN (Print-On-Demand):	979-8-3315-7784-1
ISBN (Online):	979-8-3315-7783-4
ISSN:	1063-6854

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA

Phone:	(845) 758-0400
Fax:	(845) 758-2633
E-mail:	curran@proceedings.com
Web:	www.proceedings.com

TABLE OF CONTENTS

Split-Gate-Resistance-Separation CSTBT™ for Extremely-low Turn-on Switching Loss, EMI Suppression and High Robustness	1
<i>Kazuya Konishi, Koyo Matsuzaki, Kosuke Sakaguchi, Ryosuke Kobayashi, Masashi Sawada Koutarou Kawahara, Shiro Hino, Fumihito Masuoka</i>	
Breaking the E _{on} and Radiated Noise Trade-off via Deep Split-Gate CSTBT™ with dI/dt Shaping	5
<i>Kosuke Sakaguchi, Kazuya Konishi, Ryosuke Kobayashi, Gai Fujiki, Kazuki Nishida, Naoki Ikeda Fumihito Masuoka</i>	
Two Distinct Turn-Off Behavior Variation Mechanisms and CGC Evolution Under Dynamic Avalanche Stress in IGBTs	9
<i>He Du, Teruyuki Ohashi, Takahiro Kato, Yusuke Kobayashi</i>	
Cross-Contact Structure for Narrow-Mesa IGBTs: Process Constraint Elimination and Loss-Robustness Balance Optimization	13
<i>Keisuke Yukawa, Takuya Matsumoto, Shinya Umeki, Takeshi Okamoto, Yuji Ota</i>	
A Novel Mesh-like Variation of Lateral Doping Termination for 4H-SiC Power Devices	17
<i>Nan Nie, Min Ren, Xin Zhang, Xiao Guo, Fang Zheng, Anna Zhang, Rongyao Ma, Siwei Liu, Ye Tao Zehong Li, Xuan Li, Bo Zhang</i>	
First experimental demonstration of a trench-based edge-termination structure for 1.2 kV SiC MOSFETs	21
<i>Yoshitaka Kimura, Takaaki Tominaga, Yutaka Fukui, Munenori Ikeda, Tomohiro Tamaki, Yasuhiro Kagawa Kazushi Kono</i>	
Ultra-High-Voltage 4H-SiC IGBTs Enabled by Wafer Back-Grinding: A Manufacturing Pathway for SiC Bipolar Devices	25
<i>N. Donato, M. Kah, F. Udrea, G. Gupta, M. Pocaterra, E. Ceccarelli, G. Alfieri, B. Boksteen, N. Klipfel A. Schoner, M. Dinse, JH Peters, N. Kaminski, LA Figueras La Peruta, G. Pellegrini</i>	
Development of 10.2 mm Square SiC-MOSFET with Lattice-Pattern Deep-p Structure for Electrified Vehicles	29
<i>Tadashi Misumi, Hidefumi Takaya, Ryuta Arai, Kensuke Hata, Tomohiro Mimura, Keita Hayashi Naoki Tega, Takahiro Ito, Masaki Konishi</i>	
Novel Self-aligned Flat Source Contact Architecture for Low On-resistance SiC Trench MOSFETs	33
<i>Akifumi Iijima, Takaaki Tominaga, Shiro Hino, Yutaka Fukui, Kohei Adachi, Hideyuki Hatta Yasuhiro Kagawa, Tatsuro Watahiki</i>	
p-GaN HEMTs with Distributed Drain-Connected p-GaN Islands for Improved In-situ-RDS _(on) Stability Under Surge Voltage	37
<i>Jinggui Zhou, Juan Lei, Qi Zhou, Yuqi Liu, Yuesi Yu, Binju Qiu, Yuxi Wan, David Zhou, Chao Feng Bo Zhang</i>	
Z-FET: A Low Dynamic RON Normally-OFF AlGaIn/GaN HEMT based on a multiple channel structure	41
<i>Qinyi Wei, Qimeng Jiang, Xiaotian Tang, Zhongchen Ji, Sen Huang, Xinyu Liu</i>	

6.2 kV/12.4 mΩ•cm ² Superjunction GaN Lateral Field-Effect Rectifier with Low Dynamic ON-Resistance	45
<i>Junjie Yang, Jingjing Yu, Jiawei Cui, Sihang Liu, Hao Chang, Han Yang, Xuelin Yang, Xiaosen Liu</i>	
<i>Maojun Wang, Bo Shen, Jin Wei</i>	
Record-Low RON,SP and RON×QG in Regrowth-Free Low-Voltage p-GaN Gate HEMTs on 200-mm GaN-on-Si Platform	49
<i>Yan Cheng, Yu Shi, David Zhou, Xinying Huang, Yu Zhang, Changan Li, Yuhao Wang, Zidong Cai</i>	
<i>Haolin Hu, Wei Zeng, Zongjie Zhou, Yat Hon Ng, Xiaoping Wang, Chenchang Zhan, Yuxi Wan</i>	
<i>Kevin J. Chen</i>	
Observation and Suppression of Punch-Through Breakdown in Multi-Kilovolt Lateral GaN Superjunction HEMTs	53
<i>Zineng Yang, Yuan Qin, Hehe Gong, Yuhao Zhang</i>	
Operating Voltage Extension of Fully Isolated nLDMOS Using PBL Junction Engineering and Deep P-body for Robust E-SOA	57
<i>Jong-Ho Lee, Hyun-Seok Song, Jihyun Lee, Hye-Won Du, Yong-Keon Choi, Sang-Gi Lee</i>	
A Novel Split-Channel LDMOS Using Self-Aligned Technology for Low QGD and Short-Channel Effect Suppression in High Frequency DrMOS Application	61
<i>Dingxiang Ma, Shengjie Qin, Yangjie Liao, Hanwen Bai, Jiawei Wang, Siyuan Lang, Bo Zhang, Ming Qiao</i>	
Grid-Gate LDMOS Achieving Ultra-Low Specific On-Resistance with Enhanced HCI and Thermal Robustness for DrMOS on a 55nm BCD Platform	65
<i>Jiawei Wang, Ming Qiao, Siyuan Lang, Fanyi Zeng, Dingxiang Ma, Wenliang Liu, Hanwen Bai</i>	
<i>Yangjie Liao, Yifan Wu, Shengjie Qin, Bo Zhang</i>	
A Novel Shunt-Triggered SCR with Dual Metal-Bridge for Ultra-High Holding Voltage and Robust ESD Protection	69
<i>Zhao Qi, Jinpeng Hao, Yirui Jia, Junke Li, Fengyu Shi, Xuan Li, Feng Lin, Liang Song, Jun Sun, Sen Zhang</i>	
<i>Wenqi Wu, Xin Zhang, Ming Qiao, Bo Zhang</i>	
Fundamental Device Design Rules of Applying Proton Implantation Technique to SiC MOSFETs for Prevention of the Bipolar Degradation	73
<i>Naoki Shikama, Kazuya Tojima, Hideyuki Hatta, Hiroki Niwa, Hiroyuki Amishiro, Katsutoshi Sugawara</i>	
<i>Yasuhiro Kagawa, Tetsuya Nitta</i>	
Enhanced short-circuit robustness in SiC trench MOSFETs by dual-JFET design	77
<i>Jens Baringhaus, Stephan Schwaiger, Marco Santoro, Alberto Martinez-Limia, Dragos Costachescu</i>	
<i>Wolfgang Feiler</i>	
Demonstration of High Single-Event Gate Tolerance in SiC UMOSFET by Trench-Bottom Hole Extraction	81
<i>Tomoka Suematsu, Keisuke Kobayashi, Shinichiro Matsunaga, Kensuke Takenaka, Takeshi Tawara</i>	
<i>Mitsuo Okamoto, Shinsuke Harada, Takahiro Suzuki, Hiroyuki Shindou, Haruka Shimizu, Yuki Mori</i>	
<i>Akio Shima, Takahiro Makino, Takeshi Ohshima</i>	
On the SiC/SiO ₂ Interface and SiO ₂ Gate Reliability of Planar and Trench SiC MOSFETs	85
<i>P. Moens, A. Feng, M. Avramenko, G. Gomez, J. Seo, H. Kim, D. An, S. Maslougkas, T. Nigam</i>	
<i>E. Van Brunt</i>	
A 4H-SiC MOSFET Integrated Trench Diode to Enhance Single-Event Effect Robustness	89
<i>Yadong Huang, Yiru He, Maojiu Luo, Bo Zhang, Yourun Zhang</i>	

A Triple-Path Resonant-Tracked Voltage Regulator with Package Inductor for System-on-Wafer Vertical Power Delivery	93
<i>Renwei Chen, Zhoutong Liu, Xuchen Men, Xuliang Wang, Yan Wang, Xiaosen Liu</i>	
A 700-V Monolithic MOS-Emulated GaN Power IC with Self-Powered Miller Clamping Enabling 70 V/ns CMTI in Resonant Converters	97
<i>Xinyang Liu, Rongxing Lai, Fei Teng, Xudong Li, Wenhong He, Wen Xiao, Zekun Zhou, Bo Zhang</i>	
<i>Gaofei Tang, Wen Shi, Zhiwen Dong, Qimeng Jiang</i>	
A Gate Protection Interface Enabling Robust and User-Friendly Gate Driving of GaN/SiC HyFET	101
<i>Ji Shu, Mian Tao, Yat Hon Ng, Jiaheng He, Ziying Li, Qingyuan Tang, Shi-Wei Ricky Lee, Kevin J. Chen</i>	
A 400V GaN Half-Bridge Gate Driver with Self-Protected Fast-Charging Bootstrap and Current Balance Switch Based High-CMTI Level Shifter	105
<i>Lin-Min Chen, Chun-Wang Zhuang, Xin Ming, Wei-Jia Zhang, Nai-Long He, Sen Zhang, Zhi-Jiu Wu</i>	
<i>Yu-Ling Sun, Bo Zhang</i>	
First Experimental Demonstration of Photon-Reabsorption Enhanced Conductivity Modulation in 3 kV/0.18 mΩ·cm ² GaN Vertical p-n Diodes	109
<i>Xinchen Ge, Xiujian Sun, Xiaolu Guo, Zhuo Chen, Chuanjie Li, Yaozong Zhong, Haoran Qie, Meixing Feng</i>	
<i>Haodong Wang, Xin Chen, Hongwei Gao, Quan Dai, Qian Li, Yu Zhou, Shuming Zhang, Qian Sun</i>	
<i>Hui Yang</i>	
Vertical GaN-on-Si MOSFET/JBS-based Monolithic Bidirectional Switch	113
<i>Yuchuan Ma, Changfa Sun, Yifan Dong, Ziwei Wang, Yunsong Xu, Maoqing Ling, Wen Liu, Xiangyu Teng</i>	
<i>Weijia Zhang, Chao Liu</i>	
1.2 kV-Class All Ion-Implanted Vertical GaN-DMOSFETs with Superior Short-Circuit Ruggedness	117
<i>Nao Suganuma, Katsunori Ueno, Ryo Tanaka, Hirohisa Hirai, Akira Nakajima, Shinsuke Harada</i>	
<i>Shinya Takashima</i>	
Extremely Low On-Resistance AlN-based SBDs with Distributed Polarization Doping Drift Layer	121
<i>Issei Sasaki, Masanobu Hiroki, Kazuaki Ebata, Kazuyuki Hiramata, Yoshitaka Taniyasu, Takuya Maeda</i>	
90 nm BCD Platform for 5-24V LDMOS with Ultra-Low Specific On-Resistance: Self-Aligned Trimming and Multi-Step Field Plate	125
<i>Teng Liu, Yongshun Li, Rongshuo Liu, Zhenyan Liu, Jian Xu, Hao Wang, Ting Wang, Ziao Zhang</i>	
<i>Huajing Jin, Liang Song, Nailong He, Sen Zhang, Ping Li, Rongyao Ma, Ming Qiao, Wentong Zhang</i>	
<i>Bo Zhang</i>	
Seek-BCD: A Domain-Specialized Evolutionary Large Language Model Agent for BCD Technology	129
<i>Xiaoyun Huang, Yixian Song, Hongyu Tang, Yan Pan, Dawei Gao, Kai Xu</i>	
Analysis of Body Diode in Trench Field Plate MOSFETs and Reverse Recovery Charge Reduction by Shrinking the Cell Pitch	133
<i>Tatsuya Nishiwaki, Seiji Inumiya</i>	
Comprehensive Study of Distinct TID Mechanisms in Hardened SGT MOSFET under On /Off State and Annealing Recovery	137
<i>Junfeng Yu, Jihong Ding, Ruihan Gao, Haonan Liu, Jun Ye, Xuan Xiao, Junyan Zhu, Chunlei Wu</i>	
<i>D.W. Zhang, Pengcheng Yu, Hao Gu, Hongping Ma, Qingchun Zhang, Haiming Xu, Tao Wang</i>	
<i>Qingdong Zhang, Liang Li, Haiou Li, Hong Zhou, Jincheng Zhang, Xiaofeng Gu, Linna Zhao, Wei Huang</i>	

Isolation Method for Reducing Current Noise of Hump-free MOSFET with Extended Active Region in Current Mirror	141
<i>Kyuyeop Lee, Kyunghan Kim, Dawon Jeong, Jaehyun Yoo, Yonghee Park, Jaehoon Jeong, Yonghoon Kim</i>	
0.15 μm 120 V Si P-epi BCD Technology on Latchup immunity with Lowest Ron nLDMOS, HV ESD of combined PNP Structure for Automotive Application	145
<i>Feng Qiu, Xiaodong Yang, Zhuang Wang, Shijie Wang, Fengsong Liu, Linhui Hu, Liming Liao</i>	
<i>Qiang Zhang, Hongtao Jiang, Pengcheng Yu, Hao Gu, Shijin Ding, Chunlei Wu, D. W. Zhang, Haiou Li</i>	
<i>Hong Zhou, Jincheng Zhang, Linna Zhao, Xiaofeng Gu, Wei Huang</i>	
Energy Band Analysis of Injected and Trapped Charge in Shield Oxide: Effects on Electric Field and Breakdown Behavior in Power Trench MOSFETs	149
<i>Zeinab Ramezani, Mohammed Tanvir Quddus, Ziyi Wang, Prasad Venkatraman</i>	
A Novel Notched-Gate LDMOS for Robust Reliability via Electric Field Modulation and Low Gate Charge on 55-nm BCD Platform	153
<i>Dingxiang Ma, Hanwen Bai, Fanyi Zeng, Jiawei Wang, Yangjie Liao, Bo Zhang, Ming Qiao</i>	
Degradation of Unclamped Inductive Switching (UIS) Capability Due to Gate Oxide Breakdown and Mitigation Through Layout Optimization in Split-Gate Trench MOSFETs	157
<i>Keita Aoyama, Casey Clendennen, Shinichiro Hisano, Hajime Kataoka, Shinpei Onishi, Tomoaki Shinoda</i>	
Experimental Demonstration of a Novel Double-Gate LDMOS with Optimized Conduction and Switching Losses Based on a 55nm BCD Platform	161
<i>Jiawei Wang, Ming Qiao, Hanwen Bai, Fanyi Zeng, Shuting Huang, Siyuan Lang, Dingxiang Ma, Kefei Ma</i>	
<i>Bo Zhang</i>	
A 48V 93.7%-Peak-Efficiency Dual-Edge Soft-Switching GaN Boost Converter with Adaptive Pulse Stabilizer for LiDAR Transmitter Achieving 0.48ns Pulse Width and 5.6ns Propagation Delay	165
<i>Yi Fang, Bin Chen, Longcheng Pi, Yike Fang, Yuhang Zheng, Jingni Hong, Jianlong Lin, Xiaopeng Yu</i>	
<i>Xugang Ke</i>	
A GaN Device with Self-Generated Negative Voltage for Enhanced Turn-Off Reliability	169
<i>Xinyang Liu, Rongxing Lai, Yun Dai, Xudong Li, Wen Xiao, Wenhong He, Zekun Zhou, Bo Zhang</i>	
<i>Gaofei Tang, Wen Shi, Zhiwen Dong, Qimeng Jiang</i>	
First Demonstration of Cryogenic Power Converter Operational at 4 Kelvin using GaN Power IC	173
<i>Xin Yang, Liyang Jin, Bixuan Wang, Ricardo Garcia, Han Wang, Liyan Zhu, Shengke Zhang, Linbo Shao</i>	
<i>Yuhao Zhang</i>	
A High-temperature Three-phase Silicon Carbide MOSFET Power Module with Integrated Low Propagation and High Noise Immunity Gate Driver	177
<i>Qianheng Dong, Jing Zhu, Yifei Zheng, Bowen Xue, Xiang Fan, Siyang Liu, Long Yuan, Weifeng Sun</i>	
Monolithic GaN Digital Integrated Circuits for Ultrawide Temperature Range from 5 K to 800 K	181
<i>Ang Li, Yunsong Xu, Wen Liu, Guohao Yu, Baoshun Zhang</i>	
Difference in Overvoltage Stress Behavior between CIS and UIS in Ohmic p-Gate GaN HEMTs	185
<i>Wataru Saito, Shin-Ichi Nishizawa</i>	
Impact of Integrated Substrate Potential Control (SPC) Circuits and Dual Field-Plates on Dynamic ON-Resistance in GaN Monolithic Bidirectional Switches	189
<i>Junsong Jiang, Gang Liu, Zhiwen Dong, Yao Chen, Hongfeng Chen, Xin Chu, Fengping Lin, Xingang Ren</i>	
<i>Gaofei Tang, Xi Tang</i>	

Enhanced Dynamic VTH Stability by Inserting a Hole Release Path in the Barrier for Normally off HEMTs with Regrown p-GaN Gate	193
<i>Hongwei Gao, Yaozong Zhong, Yifan Dong, Xin Chen, Haodong Wang, Haoran Qie, Xiaolu Guo Jianxun Liu, Wenwen Li, Meixin Feng, Qian Sun, Hui Yang</i>	
650-V All-GaN Cascode Device Featuring Stacked Packaging and Flux-Cancellation Layout for Concurrent Minimization of Parasitic L/C	197
<i>Yunheng Hu, Lingyan Shen, Xuotong Zhou, Long Chen, Li Zheng, Xinhong Cheng</i>	
Demonstration of E-Mode GaN Monolithic Bidirectional Switch Based on Gate Oxygen Plasma Treatment with Blocking Voltage over 2.9 kV	201
<i>Zifeng Qu, Jiachen Duan, Ang Li, Xuanming Zhang, Yunsong Xu, Hao Tian, Yizhou Jiang, Guohao Yu Chao Long, Wen Liu, Huiqing Wen</i>	
1.4kV/1.61mΩ·cm ² Vertical p-NiO/n-GaN Heterojunction Diodes with Deep Helium-implanted Edge Termination and Oxygen Plasma Treatment	205
<i>Zihao Huang, Huile Zhang, Jiajun Han, Kangkai Fan, Yu Xu, Yutong Wu, Fan Yang, Chunyan Chen Hezhou Liu, Jun He, Junfa Mao, Xinke Liu</i>	
3.5 kV, 8.9 mΩ·cm ² Enhancement-Mode GaN Superjunction Monolithic Bidirectional Switch	209
<i>Zifeng Qu, Jiachen Duan, Ang Li, Hao Tian, Yunsong Xu, Xuanming Zhang, Yizhou Jiang, Guohao Yu Chao Long, Wen Liu, Huiqing Wen</i>	
Wafer-scale N-polar GaN-on-SiC by Direct Bonding Epitaxial Layer Transfer for HEMTs	213
<i>Bohan Guo, Guohao Yu, Jiaan Zhou, Ang Li, Runxian Xing, An Yang, Yifan Yan, Ziqi Zheng, Kai Cheng Jianping Liu, Zhongming Zeng, Baoshun Zhang</i>	
GaN Monolithic Bidirectional Switch (MBDS) with Substrate Control Circuit and Its Application in Bridgeless-Boost PFC Converter	217
<i>Hao Chang, Yunhong Lao, Yinwen Tang, Hu Zhou, Peixuan Wang, Qianzhu Li, Junjie Yang, Jiawei Cui Maojun Wang, Bo Shen, Gaofei Tang, Jin Wei</i>	
Extended Gate-ESD Analysis in p-GaN Power HEMTs: Forward-ESD Impact of Top/Bottom AlGaN Spacers with Variant Al Composition and Reverse-ESD Engineering via Field Plates	221
<i>Po-Yen Huang, Haoran Wang, Chun-Hao Lai, Wei-Ting Hsu, Chang-Jui Tu, Xi Jie Lim, Shawn S. H. Hsu Benoit Bakeroot, Matteo Borga, Niels Posthuma, Roy K.-Y. Wong</i>	
Investigations of CMOS-Compatible 1200 V E-Mode p-GaN Gate HEMTs on 8-Inch Si Substrate with Thick (>8 μm) Epitaxial Layer	225
<i>Hui Jiao, Chao Feng, Zidong Cai, Danfeng Mao, Junye Wu, Yitian Gu, Rongxin Du, Haolin Hu, Wei Zeng Qing Wang, Hongyu Yu, David Zhou, Yuxi Wan</i>	
Enhanced Robustness against Hot-Electron-Induced Degradation in Selective Epitaxial p-GaN Gate HEMTs Enabled by Thick AlGaN Barriers	229
<i>Haohao Chen, Jinjin Tang, Junting Chen, Jianxun Liu, Siyuan Ye, Sijiang Wu, Zhaojun Liu, Qian Sun Mengyuan Hua</i>	
A Monolithically-Integrable Series-RC Damping Concept for GaN HEMTs Validated by Board-Level Emulation in Double-Pulse Tests	233
<i>Heng Zhang, Zhuocheng Wang, Fangzhou Wang, Pengcheng Xing, Chao Liu, Ruize Sun, Wanjun Chen Bo Zhang</i>	
100-nm-W _{fin} E-Mode GaN Tri-Gate HEMT with 1.87GW/cm ² Baliga Figure-of-Merit	237
<i>Yu Li, Haochen Zhang, Guohao Yu, Ang Li, Gaofu Guo, Tiwei Chen, Liying Ding, Tiantian Deng, Jiawei Ye Yong Cai, Zhongming Zeng, Baoshun Zhang</i>	

Bowtie p-GaN HEMT Source Follower Featuring 6 – 45V Wide Input Range and 1.48 MHz Operation with Monolithic Integrated Common-Source Amplifier for Bandwidth Extension in HV Current Sense Application	241
<i>P.-S. Kuo, C. Langpoklakpam, Y.-C. Wang, H.-L. Chiang, C. Sung, P.-T. Chen, W.-C. Lin, S. Elangovan C.-L. Hung, Y.-K. Hsiao, H.-C. Kuo, C.-C. Tu, T.-L. Wu</i>	
Demonstration of 10 A Switching of Vertical GaN p–n Diodes with Mesa-Free Termination Structure	245
<i>Yoshinao Miura, Hirohisa Hirai, Akira Nakajima, Shinsuke Harada</i>	
High Thermal Stability of Threshold Voltage in p-Cr ₂ O ₃ Gated AlGaIn/GaN HEMTs	249
<i>Jingang Li, Hao Tian, Maoqing Ling, Jiachen Duan, Zifeng Qu, Ye Liang, Harm van Zalinge Ivona Z. Mitrovic, Ping Zhang, Kain Lu Low, Sen Huang, Wen Liu</i>	
High-Voltage Ga ₂ O ₃ Schottky Barrier Diodes with Inserted Semi-Insulating Microcolumns for Suppression of Reverse Current	253
<i>Chunyan Chen, Jiachang Guo, Xue Fan, Huile Zhang, Kangkai Fan, Yu Xu, Zihao Huang, Yiyang Li Bo Wang, Jun He, Junfa Mao, Xinke Liu</i>	
High-Performance and Reliability-Enhanced β -Ga ₂ O ₃ Trench Schottky Barrier Diodes with Ion-Implantation Shielding Layer	257
<i>Ming Li, Zhang Wen, Zugui Jiang, Songquan Yang, Bangyao Mao, Weizhe Bi, Leidang Zhou Mingchao Yang, Yue Hao, Li Geng</i>	
Device Design Insights for Ga ₂ O ₃ SBDs from System-Level Thermal and Power Loss Analysis	261
<i>Haoran Wang, Po-Yen Huang, Ang Lee, Shawn S. H. Hsu, Roy K.-Y. Wong</i>	
Combined Degradation Mechanism of Leakage-Temperature of Highly Doped Epitaxial β -Ga ₂ O ₃ SBDs during 5 MeV Proton Irradiation	265
<i>Jiao Liang, Wenzhang Du, Yuangang Wang, Xinbo Zou, Yiwu Qiu, Xinjie Zhou, Hao Gu, Pengcheng Yu Zhihong Feng, Hongping Ma, Qingchun Zhang, Hong Zhou, Jincheng Zhang, Haiou Li, Zhuorui Tang Junfeng Yu, Junyan Zhu, Chunlei Wu, D. W. Zhang, Wei Huang</i>	
A Novel Electric field Modulation Ga ₂ O ₃ Schottky Barrier Diode with Nitrogen-Ion Implantation combine with Trench Field Limit Rings and Floating Metal Rings Termination	269
<i>Moufu Kong, Mingliang Yang, Gaofu Guo, Jiaxin Li, Liang Zhao, Xiaodong Zhang</i>	
Demonstration of β -Ga ₂ O ₃ Lateral Heterojunction Diodes with 450 V Single-event Burnout Voltage	273
<i>Song He, Jinyang Liu, Guangwei Xu, Ziyuan Wang, Weibing Hao, Da Yu, Tianqi Wang, Jie Luo, Jie Liu Xuanze Zhou, Shu Yang, Shibing Long</i>	
Internal Field Optimization Using a Localized Bottom SiO ₂ in Vertical β -Ga ₂ O ₃ FinFETs	277
<i>Gaofu Guo, Anjing Luo, Tiwei Chen, Zhucheng Li, Yu Li, Dengrui Zhao, Yi Li, Li Zhang, Chunhong Zeng Xiaodong Zhang, Zhongming Zeng, Xianqi Dai, Baoshun Zhang</i>	
Enhanced On-State Performance of Vertical β -Ga ₂ O ₃ UMOSFETs via MOCVD-Grown Sidewall Regrown Channels	281
<i>Anjing Luo, Zhucheng Li, Gaofu Guo, Xuanze Zhou, Tiwei Chen, Li Zhang, Guangwei Xu, Chunhong Zeng Xiaodong Zhang, Shibing Long, Zhongming Zeng, Baoshun Zhang</i>	
Investigation of Bias Temperature Instability in β -Ga ₂ O ₃ UMOSFET with N-ion Implanted Current Blocking Layers	285
<i>Xuanze Zhou, Qi Liu, Xiang Li, Huidong Yao, Shu Yang, Guangwei Xu, Shibing Long</i>	

1.36 kV Planar-gate Ga ₂ O ₃ CAVET with Nitrogen-Graded Multi-Implanted Current Blocking Layer	289
<i>Jiahao Yao, Hehe Gong, Gaofu Guo, Anjing Luo, Fang-Fang Ren, Shulin Gu, Rong Zhang, Yuhao Zhang Xiaodong Zhang, Jiandong Ye</i>	
Demonstration of Breakdown Voltage Enhancement in HfO ₂ Normally-OFF Diamond FETs via Source Field Plate	293
<i>Junhou Cao, Xinyu Zhou, Lei Huang, Tuanzhuang Wu, Zhaoxiang Wei, Xiangrui Fan, Yiren Yu, Xinxin Yu Sheng Li, Ran Ye, Jie Ma, Long Zhang, Jiaying Wei, Siyang Liu, Weifeng Sun</i>	
Potential of Sb-Doped MCZ Wafer for 300-mm Si-Based High Voltage Power Devices Rating up to 6.5 kV	297
<i>Katsumi Nakamura, Yosuke Nakanishi</i>	
Novel Equivalent Simulation Method and Experimental Zero Failure Verification of Optimized 650V SJ MOSFETs Under 100% Rated Voltage HTRB	301
<i>Daoming Shen, Hongyan Ge, Jie Zhang, Bo Zhang, Ming Qiao</i>	
Demonstration of 1200V SOI PLDMOS with Optimized Substrate P-sub/DN Junction for High Saturation Current	305
<i>Zheng Zhang, Chengwu Pan, Mengyan Wu, Jiayu Li, Yuncong Li, Nailong He, Dejin Wang, Sen Zhang Siyang Liu, Jie Ma, Weifeng Sun, Long Zhang</i>	
Device Structure Estimation by Inverse Calculation and Its Application to Semiconductor Manufacturing	309
<i>Tomohiko Mori, Ryosuke Okachi, Junya Muramatsu, Makoto Kuwahara, Daigo Kikuta, Takaaki Aoki Satoshi Kojima, Fumitaka Kato, Takafumi Arakawa</i>	
Over 3.5 kV (011) β -Ga ₂ O ₃ Schottky Barrier Diode and First Demonstration of 4.7 kV NiO-based (011) β -Ga ₂ O ₃ Heterojunction Diode	313
<i>Junpeng Wen, Jinyang Liu, Qiuyan Li, Lequan Wang, Yuanjie Ding, Song He, Xuanze Zhou, Shu Yang Guangwei Xu, Shibing Long</i>	
Over 2.5 GW/cm ² Vertical β -Ga ₂ O ₃ Schottky Barrier Diode with High-k Field Plate and Multi-Zone Gradient Rings Assisted JTE	317
<i>Lequan Wang, Jinyang Liu, Song He, Junpeng Wen, Qiuyan Li, Yuanjie Ding, Weibing Hao, Xuanze Zhou Shu Yang, Guangwei Xu, Shibing Long</i>	
0.79 m Ω •cm ² and 1.1 kV Vertical Mo/ β -Ga ₂ O ₃ Deep-Trench-HJBS Diode with Double Drift Layers	321
<i>Qiuyan Li, Jinyang Liu, Qi Liu, Song He, Zaitian Han, Junpeng Wen, Lequan Wang, Weibing Hao Xuanze Zhou, Qin Hu, Shu Yang, Guangwei Xu, Shibing Long</i>	
Area Scaling-up of β -Ga ₂ O ₃ Schottky Barrier Diodes Achieving 62 A Surge Current and 1.9 kV Breakdown Voltage	325
<i>Jinyang Liu, Qiuyan Li, Xuanze Zhou, Shu Yang, Zheyang Zheng, Qin Hu, Guangwei Xu, Shibing Long</i>	
Single-Event Effects and Corresponding Nanoscale Microstructure in β -Ga ₂ O ₃ UMOSFETs: Device Reliability and Failure Mechanism	329
<i>Da Yu, Huidong Yao, Xuanze Zhou, Qi Liu, Song He, Xuan Xie, Tianqi Wang, Lei Shu, Guangwei Xu Shu Yang, Bo Li, Shibing Long</i>	
Vertical Power Delivery for 5 kW AI Systems: From Advanced Passives to GaN IC Integration	333
<i>Jingshu Yu, Nicolas Butzen, Harrish K. Krishnamurthy, Samuel Bader, James Waldemer, Jagar Singh Kaladhar Radhakrishnan, Huong T. Do, Mausamjeet Khatua, Minxiang Gong, Sheldon Weng Zakir K. Ahmed, Suhwan Kim, Krishnan Ravichandran, Heli Vora, Prafful Golani, Pratik Koirala Michael Beumer, Ahmad Zubair, Han Wui Then</i>	

High Power Density SiC Power Module Enabled by a Multi-Functional Si Chip	337
<i>Hideo Komo, Michael Rogers, Makoto Ueno, Kazuhiro Nishimura, Noboru Morimoto, Shinsuke Godo</i>	
A Hybrid-Package 3-D GaN Power Module with Optimal Thermal Performance and High-Density Integration	341
<i>Haobin Wei, Shenglei Zhao, Xiaoqing Liu, Fugang Huang, Shuang Liu, Qiao Du, Xuejing Sun, Longyang Yu Ming Xiao, Shuzhen You, Yue Hao, Jincheng Zhang</i>	
Surge Capability of SiC MOSFETs in the Third Quadrant: Impact of Advanced Packaging Structures	345
<i>Binqi Liang, Feilin Zheng, Hao Li, Xuebao Li, Rui Jin, Xiang Cui</i>	
Electroplated Copper as Front-Side Source Metal for Enhanced Electrical Performance and Reliability of 1200 V Planar SiC MOSFETs	349
<i>Cen Tang, Hongsheng Yi, Junyou Wang, Yuehua Hong, Longgu Tang, Wei Lu, Wentao Yang, Jin Rao Hamada Kimimori</i>	
A Novel Trench IGBT with Floating P-Region Controlled Split Gate for Low EMI Noise	353
<i>Tongyang Wang, Zehong Li, Xuan Wang, Ziming Xia, Yige Zheng, Zhaoqing Jin, Min Ren</i>	
Experimental Demonstration of Superjunction MOSFET with Low-Barrier NPN Transistor for Low Reverse Recovery Charge	357
<i>Tongyang Wang, Zehong Li, Xuan Wang, Ziming Xia, Yige Zheng, Zhaoqing Jin, Min Ren</i>	
Novel Gate-Controlled Soft Turn-off Technique for Short-Circuit Protection in Double-Gate IGBTs	361
<i>Teruyuki Ohashi, He Du, Satoshi Yoshida, Keigo Arita, Yusuke Hayashi, Tomoko Matsudai Yusuke Kobayashi</i>	
Deep Split-Dummy-Active CSTBT™ Enabling Simultaneous VCE _(sat) and EON Reduction	365
<i>Reona Furukawa, Kazuya Konishi, Takashi Fujimoto, Fumihito Masuoka</i>	
Multi-Gate Control for Conduction Loss Reduction via Transient Built-in Voltage Bypass in IGBT	369
<i>Takato Yamamoto, Yusuke Kobayashi, Tomoko Matsudai, Ryohei Gejo, Kota Kato, Tatsunori Sakano Teruyuki Ohashi, Munetoshi Fukui, Takuya Saraya, Kazuo Itou, Toshihiko Takakura, Shinichi Suzuki Toshiro Hiramoto</i>	
In-Situ Characterization Method for Current Distribution in Press-Pack IGCT Based on Active Avalanche Mechanism	373
<i>Fucheng Liu, Jiapeng Liu, Songwei Li, Jiabin Wang, Chunpin Ren, Xiaozhao Li, Hui Liu, Xiaoguang Wei Jinpeng Wu</i>	
A Device-Capacitance-Controlled LC Oscillation Suppression in Split-Gate CSTBT™ Based on Barkhausen Stability Analysis	377
<i>Kazuki Nishida, Naoki Ikeda, Kosuke Sakaguchi, Ryosuke Kobayashi, Kazuya Konishi, Rei Yoneyama</i>	
Experimental Demonstration of Reduced Bulk Field Mechanism in 800 V LDMOS via a Novel Deep-Trench Sidewall Protection Implantation Technology	381
<i>Jian Xu, Teng Liu, Yueyu Zhang, Zhenyan Liu, Yiduo Xie, Longhui Lin, Qiaofeng Lin, Yongsheng Sun Hao Fang, Xiaofeng Lai, Jiawei Wang, Hao Wang, Ting Wang, Ziao Zhang, Nailong He, Sen Zhang Wentong Zhang, Bo Zhang</i>	
Temperature-Dependent ESD Robustness in Micrometer 4H-SiC CMOS Technology	385
<i>Pengyu Lai, Hui Wang, Kevin Chen, H. Alan Mantooth, Zhong Chen</i>	
Bipolar Pre-injection Phenomenon at Anomalously Low Anode Voltage in 4H-SiC RC-IGBT	389
<i>Haizhao Zhi, Sirui Feng, Ling Li, Xinpeng Lin, Ying Dai, Yiling Li, Xinyue Dai, Xiaoping Wang, Yuxi Wan</i>	

Parasitic BJT Activation and Punch-Through Mechanisms in a Hybrid-Drain Embedded SiC JFET	393
<i>Haizhao Zhi, Sirui Feng, Ying Dai, Xinpeng Lin, Ling Li, Yiling Li, Xinyue Dai, Xiaoping Wang, Yuxi Wan</i>	
Impact of Carbon Cap Defects on the Reliability of Automotive 1.2 kV SiC MOSFETs	397
<i>Jinying Yu, Jingjing Cui, Jie Deng, Baocheng Yuan</i>	
Demonstration of a Monolithically Integrated SiC Double-RESURF MOSFET Half-Bridge	401
<i>Junze Li, Qing Guo, Jiazeng Ren, Zijian Hu, Jingkai Lin, Genyuan Yang, Zhen Zhang, Jiangbin Wan</i> <i>Hai Lin, Hengyu Wang, Na Ren, Kuang Sheng</i>	
Reliability of SiC SBD Edge Terminations under HV-H3TRB and Thermal Cycling Tests	405
<i>Kouta Abe, Hiroshi Yano, Noriyuki Iwamuro</i>	
On the Impact of Gate Switching Instability in Switching Performance for SiC Trench MOSFETs	409
<i>Jaume Roig, Rishi Krishna, Agnimitra Saha, Sotirios Maslougkas, Nikolas Masnicak, Tanuj Saxena</i>	
Experimental Study on Reverse Conduction FinFET with Integrated Junctionless Diode	413
<i>Kaiwei Dai, Yuxi Wei, Chaoyu Gong, Jialei Tan, Jie Wei, Bo Zhang, Xiaorong Luo</i>	
A Novel 4H-SiC Trench MOSFET with Self-Adaptive Potential P-shield for Excellent Trade-off between Conduction Loss and Robustness	417
<i>Xiangrui Fan, Haozhu Pei, Jing He, Zitao Lin, Jiameng Sun, Yiren Yu, Yu Tian, Junhou Cao, Zhaoxiang Wei</i> <i>Qian Wang, Long Zhang, Jiaying Wei, Siyang Liu, Weifeng Sun</i>	
Design Constraints for a Si/SiC Fusion Switch With Realistic Boundary Conditions	421
<i>M. S. Weidl, F. Wolter, T. Reiter, C. Ouyard, A. Philippou, N. M. Muenzer, M. Niendorf, W. Jakobi</i>	
SiC MOSFET with Two Embedded Series-Opposed Polysilicon Diodes for Improved Short-Circuit Capability	425
<i>Yijiang Liu, Ruifeng Yue, Xiaosen Liu, Yan Wang</i>	
High Performance Monolithic Integration of 20 V CMOS Gate Driver and 1.7 kV JBSFET on 4H-SiC	429
<i>Yu-Chin Ting, Quan-Han Chen, Ming-Han Wang, Chia-Lung Hung, Yi-Kai Hsiao, Bing-Yue Tsui</i>	
Thermal Management of Parallel SiC MOSFETs Using Time-Domain Gate Resistance Modulation	433
<i>Yuchu Ge, Xiangyu Teng, Xin Ming, Wei Jia Zhang</i>	
Distributed Model for Capacitance-Based Extraction of Channel and Drift Resistance in SiC MOSFETs	437
<i>Tanuj Saxena, Rishi Krishna, Jaume Roig</i>	
A Behavioral Model for Pulse Generator Based on Series-Connected SiC DSRDs	441
<i>Ziwen Chen, Yuxiao Yang, Yao Yang, Ruize Sun, Wanjuan Chen, Bo Zhang</i>	
Performance Comparison of Standalone 4H-SiC JFETs and Cascode Devices at Cryogenic Temperature	445
<i>Yiren Yu, Ziyao Miao, Jiaxin Zhai, Jiayi Shen, Xiangrui Fan, Yu Tian, Zhaoxu Song, Jiaying Wei, Siyang Liu</i> <i>Weifeng Sun</i>	
Bipolar Behavior of SiC MOSFETs with Charge-Balance-Assisted Structures	449
<i>Yuhan Duan, Liming Che, Botao Sun, Yuanlan Zhang, Pan Liu, Guangyin Lei, Min Li, Qingchun Jon Zhang</i>	
A Coupled-Charge Driven Reverse-Recovery SPICE Model for SiC MOSFETs Considering Quasi-Floating Channel Effects	453
<i>Fu-Jen Hsu, Ting-Fu Chang, Hsiang-Ting Hung, Chung-Ju Yu, Chih-Fang Huang, Cheng-Tyng Yen</i>	

Geometry Scalable SPICE Modeling of 4H-SiC CMOS for Integrated Circuit Design	457
<i>Shuqiang Chen, Yong Gu, Mengyao Zhao, Yu Huang, Runhua Huang, Song Bai, Jie Ma, Weifeng Sun Long Zhang</i>	
A New 1200V SiC Trench MOSFET with Shallow Trench and High-Energy Deep P ⁺ Implantation for Enhanced Gate Oxide Electric Field Shielding	461
<i>Moufu Kong, Zhaoyu Ai, Hongfei Deng, Qizhi Feng, Mingliang Yang, Xuebing Yin, Bingke Zhang</i>	
Negative Temperature Dependence of Reverse-Recovery Overshoot Voltage in LDG-FS SiC MOSFET Body Diodes	465
<i>Qiming He, Zhong Lan, JianJie Xiao, Wei Liu, Cheng Liu, Huijie Zhang, Ling Li, Rongyu Xue, Qijun Liu Guan Song, Pengxiang Wang, Yafei Wang, Yao Yao, Chengzhan Li, Qiang Xiao, Haihui Luo</i>	
Design and Fabrication of 1 cm ² Chip Size, 20 kV Rated SiC MOSFETs on 200 mm SiC Wafer	469
<i>Yun Xia, Gang Chen, Wei Liu, Yitian Jiang, Ying Dai, Lei Song, Jinliang He, Zheqian Chen, Bo Liao Chiteng Deng, Haifeng Hou, Rongxin Du, Jinghan Xu, Jiamin Tian, Xiong Yang, Yuxi Wan</i>	
Dynamic-Thermal Stress: A Critical Factor in Automotive SiC MOSFET Reliability and Lifetime Prediction	473
<i>Jihong Zhu, Jingjing Cui, Jinying Yu, Baocheng Yuan</i>	
First Investigation of Output Capacitance Loss in 4H-SiC Super-Junction Devices	477
<i>Shuying Zhu, Hengyu Wang, Haoyuan Cheng, Yuhao Zhang, Runze Xia, Chi Zhang, Zixuan Zheng Kuang Sheng</i>	
Characterization, Analysis, and Modeling of Quasi-Saturation in High-Voltage Superjunction 4H-SiC Power DMOSFETs	481
<i>Zhaowen He, Collin Hitchcock, Stacey Kennerly, Reza Ghandi, T. Paul Chow</i>	
Influence of Interface Traps and Cell Design on Dynamic VSD Behaviour in Double-Trench SiC MOSFETs	485
<i>Madhu Lakshman Mysore, Rahul-Vijaybhai Chavda, Maximilian Goller, Patrick Heimler, Thomas Basler</i>	
Single-Event Effects and Leakage Mechanisms in ATG SiC MOSFETs Under Off-State Drain Bias and On-State Gate Bias	489
<i>YanJun Li, Manyi Ji, Lingxu Kong, Hongyi Xu, Li Liu, Jiupeng Wu, Na Ren</i>	
Repetitive Avalanche Pulses of SiC Trench MOSFETs during First and Third Quadrant Operation	493
<i>Sebnem Tuncay, Dethard Peters, Thomas Basler</i>	
Influence of JFET Region Design on the Repetitive Short-Circuit Ruggedness in Trench SiC MOSFETs	497
<i>Katsuhisa Tanaka, Yuji Kusumoto, Masataka Yukumoto, Tsutomu Kiyosawa, Hiroshi Kono, Takuma Suzuki Kenya Sano</i>	
Surge Capability of 3.3 kV SBD-embedded SiC MOSFETs and Impact of the SBD Layout	501
<i>Zijian Hu, Yuanying Li, Hongyi Xu, Jiupeng Wu, Junze Li, Chi Zhang, Liming Wei, Shichao Jiang Youquan Zhang, Wei Liu, Lei Chen, Na Ren</i>	
Impact of Cell Orientation on 1.2 kV 4H-SiC MOSFETs with Channeling Implanted Deep P-well	505
<i>Dinuth C. Y. B. Yapa Mudiyansele, Skylar DeBoer, Stephen A. Mancini, Justin Lynch, Seung Yup Jang Adam J. Morgan, Woongje Sung</i>	
Analytic Modeling and Transient Characterization of Fast-Recovering Gate Oxide Defects in SiC MOSFETs	509
<i>Xu Li, Yaoxin Lin, Jian Chen, Haitao Liu, Wensheng Song</i>	

1.2 kV 3D Quasi-Planar Trench SiC MOSFET with P-Body Layer as Trench Protection	513
<i>Mansha Kansal, Iulian Nistor, Kyrylo Melnyk, Giuseppe Capasso, Alessandro Borghese, Michele Riccio</i>	
<i>Arne Benjamin Renz, Giovanni Breglio, Neophytos Lophitis, Andrea Irace, Marina Antoniou, Munaf Rahimo</i>	
<i>Luca Maresca</i>	
Third-quadrant Characteristic and Surge Current Behavior of SiC MOSFET at Different Conduction Modes	517
<i>Xu Li, Xiaochuan Deng, Xuan Li, Jiahao Hu, Wensheng Song</i>	
Novel Short-Circuit Failure Mechanisms of Trench SiC MOSFETs Suffering Total Ionizing Dose	521
<i>Hanqing Zhao, Jiahao Hu, Jingui Zhou, Ruizhe Sun, Yifan Wu, Hanyi Zheng, Cheng Yang, Xuan Li</i>	
<i>Xiaochuan Deng, Bo Zhang</i>	
Detecting Asymmetries Within Multi-Chip SiC Power Modules by Means of the Kelvin Source	525
<i>Jonas Müller, Hauke Lutzen, Torben Buchholz, Jan-Hendrik Peters, Wataru Saito, Nando Kaminski</i>	
Development of the 500kVA/L Ultra-High Power Density Next-Generation SiC Inverter Unit	529
<i>Yoshihiro Tateishi, Keita Suzuki, Satoharu Tanai, Akira Kitamura, Tetsuo Endoh, Yoshikazu Takahashi</i>	
Design and Development of High-Current E-mode GaN p-FET and Complementary Logic Circuits on UID-GaN/AlGaN Platform	533
<i>Xuanming Zhang, Yunsong Xu, Jiachen Duan, Haotian Ji, Jun Wen, Zhiwei Sun, Zifeng Qu, Jiangmin Gu</i>	
<i>Ye Liang, Ivona Mitrovic, Harm Van Zalinge, Jie Zhang, Xi Chen, Sen Huang, Wen Liu</i>	
Substrate Management for GaN Bi-directional Switch Based on Charge Recycling of Slow Recovery Diode	537
<i>Junjie Zhu, Zongjie Zhou, Junting Chen, Ji Shu, Zheng Wu, Tao Chen, Yuwei Wu, Yan Cheng, Yutao Geng</i>	
<i>Longge Deng, Yat Hon Ng, Gaofer Tang, Qimeng Jiang, Kevin J. Chen</i>	
Achieving Robust Single-Event Irradiation Tolerance in 6-inch E-mode GaN-on-Sapphire HEMTs With a Thin AlN Buffer	541
<i>Can Zou, Yan Ma, Yiteng Yu, Zhengxiang Tang, Tianqi Wang, Jianli Liu, Zhengliang Zhang, Zheng Zhang</i>	
<i>Liuxing Dai, Yuanyang Xia, Leke Wu, Yiheng Li, Tinggang Zhu, Weizong Xu, Dunjun Chen, Rong Zhang</i>	
<i>Feng Zhou, Hai Lu</i>	
Drain Voltage Stress Timing Strategy towards GaN HEMTs Dynamic RON Stability Mechanism	545
<i>Zesen Chen, Zhengyu Chen, Ying Wang, Zhuoran Luo, Tian Luo, Wenkang Ji, Qianshu Wu, Tao Su</i>	
<i>Yang Liu</i>	
Visualizing the Internal Discharging Current in GaN Power HEMTs During Switching Transients	549
<i>Yuan Meng, Chi Wang, Yang Dong, Junsong Jiang, Li Zhang, Xi Tang, Shibing Long, Zheyang Zheng</i>	
kV-Class Photoconductive Semiconductor Switches Using Mn-Doped Semi-Insulating GaN Bulk Crystals	553
<i>Takuya Maeda, Chinwei Li, Ryosho Nakane, Kenji Iso</i>	
Frequency Dependence of p-GaN Gate Lifetime Evaluated under Realistic Driver-Loop Stress	557
<i>Sijiang Wu, Siyuan Ye, Zhiyong Liang, Shanshan Wang, Haohao Chen, Zhaojun Liu, Junmin Jiang</i>	
<i>Mengyuan Hua</i>	
3 kV, 982 MW/cm ² Monolithic GaN Bidirectional Switch with Tunneling Layer Fin-Gate and Dual-Passivated p-GaN/Schottky Hybrid Drain	561
<i>Yizhou Jiang, Huiqing Wen, Zifeng Qu, Hao Tian, Xuanming Zhang, Jiachen Duan, Wen Liu</i>	

Investigation of the Gate Leakage Current of Schottky-type p-GaN Gate HEMTs during SC-Events	565
<i>Tim Egener, Christoph Schmickler, Jorge Perez, Martin Pfof</i>	
Ultra-Wide Bandgap Al _{0.85} Ga _{0.15} N/Al _{0.65} Ga _{0.35} N HEMTs with Baliga Figure of Merit > 0.5 GW/cm ² leveraging LPCVD Si ₃ N ₄ Passivation and Field Plates	569
<i>Aditya Dev Varma, Seungheon Shin, Joe McGlone, Patrick Darmawi-Iskandar, Hridibrata Pal</i> <i>Zhongyunshen Zhu, Yinxuan Zhu, Tariq Jamil, S.M. Tazbiul Hasan, Abdullah Al Mamun Mazumder</i> <i>Chandan Joishi, James Fiorenza, Siddharth Rajan, Asif Khan, Tomás Palacios</i>	
Gate/Drain Stress Interplay in Low-Voltage Schottky-Type p-GaN Gate HEMTs during Switching Operation	573
<i>Longge Deng, Yuwei Wu, Junting Chen, Tao Chen, Yan Cheng, Ji Shu, Zheng Wu, Yat Hon Ng</i> <i>Kevin J. Chen</i>	
Investigation of Field Plate Design and Gate Control Strategies for Monolithic Bidirectional GaN HEMTs in Vienna Rectifier Applications	577
<i>Chun-Hao Lai, Wei-Ting Hsu, Vito Argono, Po-Yen Huang, Haoran Wang, Xi Jei Lim, Shawn S. H. Hsu</i> <i>Roy K.-Y. Wong</i>	
System-Level Evaluation of Dead-Time Loss Induced by Dynamic Threshold Voltage of GaN HEMTs	581
<i>Yuwei Wu, Zhaotian Yan, Jiaheng He, Kevin J. Chen</i>	
Demonstration of High Voltage (>1.7kV) GaN Negative-Capacitance Ferroelectric HEMTs Using HZO Gate Stack Achieving 47.89 mV/dec SS and Reduced ON-Resistance	585
<i>Thi My Hanh Dao, Yu-An Chen, Hsien-Yang Liu, Tian-Li Wu</i>	
γ -Ray Irradiation-Induced Dynamic RON Degradation in P-GaN Gate HEMT: Role of Surface Trapping	589
<i>Chenyue Chu, Xuan Xie, Juntai Wang, Ziang Wang, Minze Wang, Hao Zhang, Xi Tang, Shibing Long</i> <i>Shu Yang</i>	
450 V/18 m Ω Radiation Hardened P-GaN Gate HEMT With Single-Event Hardness at 82 MeV•cm ² /mg	593
<i>Xuan Xie, Minze Wang, Ziang Wang, Zhi Wang, Yawen Zhang, Qiuyi Tang, Chenyue Chu, Guangwei Xu</i> <i>Shibing Long, Bo Shen, Shu Yang</i>	
Monolithic Integration of E/D-mode Power HEMTs and Self-Powered Circuits on a Standard GaN Platform	597
<i>Fengping Lin, Gaofei Tang, Yao Chen, Zhiwen Dong, Hongfeng Chen, Junsong Jiang, Xiaoyu Liu</i> <i>Chengyue Chu, Zhaofu Zhang, Shu Yang, Xi Tang</i>	
Revisiting the Avalanche Breakdown Criterion in High-Dislocation-Density GaN Power Devices	601
<i>Zineng Yang, Yifan Wang, Hehe Gong, Jiaqi He, Hang-Ming Zhang, Kai Cheng, Han Wang, Yuhao Zhang</i>	
Investigation of Different Layout Designs for 4H-SiC MOSFETs with an Integrated Channel Diode	605
<i>Stephen A. Mancini, Dinuth C. Y. B. Yapa Mudiyansele, Seung Yup Jang, Andrew Binder, Richard Floyd</i> <i>Robert Kaplar, Jack Flicker, Stan Atcitty, Justin Lynch, Adam J. Morgan, Woongje Sung</i>	
Smart 1.7 kV SiC Power ICs: Monolithic Integration of TCOX UMOSFETs and Tri-Gate CMOS	609
<i>Chia-Lung Hung, Jing-Neng Yao, Yun-Tin Huang, Ho-Lin Kao, Bing-Yue Tsui, Tian-Li Wu, Yi-Kai Hsiao</i> <i>Hao-Chung Kuo</i>	
An 850V Gate Driver Integrated 4H-SiC Planar MOSFET SiP with 560MW/cm ² BFOM and 10MHz High-Speed Switching Capability	613
<i>Fu-Jen Hsu, Hsiang-Ting Hung, Ting-Fu Chang, Chung-Ju Yu, Chih-Fang Huang, Cheng-Tyng Yen</i>	

Superior third quadrant performance in ultra narrow 4H-SiC vertical FinFETs	617
<i>Q. Wang, N. Donato, F. Udrea, H. Fujioka, T. Kumazawa, H. Tomita, M. Okuda, T. Nishiwaki, H. Fujiwara T. Kimoto</i>	
Enhanced Gate Reliability and High Threshold Voltage p-GaN HEMT With p-NiO/p-GaN Heterojunction	621
<i>Jinbing Wang, Maojun Wang, Pengfei Wang, Jin Wei, Jinyan Wang, Xinyi Pei, Na Sun, Jiandong Ye Xun Zhang, Yuxia Feng, Han Yang, Bo Shen</i>	
A Systematic Study of Total Ionizing Dose Effects on P-GaN Gate HEMTs under Off-State Bias	625
<i>Zhao Wang, Shuai Yuan, Shenghuai Liu, Ming Qiao, Bo Zhang</i>	
Under 10 Nanosecond Switching of 700V GaNFET Using a Chip-on-Board Optical Gate Drive	629
<i>Khush Gohel, Hardik Chhabra, Yanwen Gu, Bowen Yang, Giri Venkataramanan, Chirag Gupta</i>	
Verification of Buck Converter Via Optimized Monolithic Heterogeneous GaN/Si CMOS Process	633
<i>Wenzhang Du, Xiaojun Fu, Junfeng Yu, Chunlei Wu, David Wei Zhang, Hongping Ma, Qinchun Zhang Chen Qian, Guangsheng Zhang, Hong Zhou, Jincheng Zhang, HaiOu Li, Liang Li, Yuan Wang Yue-Chan Kong, Xiaotian Fei, Pengcheng Yu, Xiaofeng Gu, Linna Zhao, Wei Huang</i>	
Slew-rate control of Dmode GaN switches: Theory and application	637
<i>G. Gupta, N. Singh, J. Choi, P. Lai, Y. Huang, A. Ekbote, R. Lal</i>	
Power MOSFETs With Super Safe-Operating-Area	641
<i>Mark A. Gajda, Ali Ghasemi, Hamza Patel</i>	
Super Q – A Revolution in Superjunction Technology	645
<i>Phil Rutter, Haian Lin, Zia Hossain, David Jauregui</i>	
A Novel 40V High-Performance Lateral Power MOSFET Using a Charge-Coupled Trench Architecture	649
<i>Stefano Zoino, Lia Masoero, Nicolas Pons, Ibtihaile Boufous, Filippo Privitera, Rosalia Germana Patrick Calenzo, Marina Ruggeri, Antonia Conte, Carlo Sportato, Monica Petralia, Guillaume Neyroz Philippe Bienvenu, Sylvain Coquel, Stephane Amat, Julia Castellan, Antonio Calandra Giuseppe Bonaventura, Phil Sirito-Olivier</i>	
Enhancing Split-Gate MOSFET Efficiency Via Source Resistance and Layout Optimisation	653
<i>Ali Ghasemi, Mark Gajda, Ian Stubbs</i>	