

2018 15th China International Forum on Solid State Lighting: International Forum on Wide Bandgap Semiconductors China (SSLChina: IFWS 2018)

**Shenzhen, China
23 – 25 October 2018**



**IEEE Catalog Number: CFP18J64-POD
ISBN: 978-1-7281-1389-0**

**Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
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:	CFP18J64-POD
ISBN (Print-On-Demand):	978-1-7281-1389-0
ISBN (Online):	978-1-7281-1388-3

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

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Sr. No.	Title	Page No.
1.	Fabrication and optical properties of white LED based on laminated remote phosphor film Ning-ze ZHUO, Na ZHANG, Yong-hao CHEN, Peng JIANG, Shao-wen CHENG, Yue-hua ZHU, Hai-bo WANG Paper ID: S201-201808122311	1-4
2.	Design of High Condensing Searchlight based on Ultra High Bright LEDs Zhiliang Jin, Peipei Wang, Weimin Li, Daxi Xiong Paper ID: S201-201808150942	5-8
3.	Silicone Rubber for LED Encapsulant Lingyu Wang, Pengli Liu, Laixing Li, Wang Chen, Shihai Yang, Haiting Zheng Paper ID: S201-201808151641	9-11
4.	Study on Phosphor Schemes in Full Spectrum WLED Chao Liang, Junfeng Xu, Yibing Fu, Xiaoming Teng, Kai Liu, Bin Wu Paper ID: S201-201808222057	12-14
5.	Matrix-Addressable Micro-Size Light-Emitting Diode Array using Two-Step Etching Method Huamao Huang, Haocheng Wu, Cheng Huang, Zhuobo Yang, Chao Wang, Hong Wang Paper ID: S201-201809092305	15-18
6.	LED tunnel lighting control based on ZigBee Shujun Sun, Bo Li , Nianyu Zou Paper ID: S202-201807181650	19-22
7.	Study on Matching Value of Illumination in Night Lighting Environments CHEN Ailin, LI Zaizhou, HE Qipeng, HE Xiaoyang, WANG Zhisheng, ZOU Nianyu Paper ID: S202-201808132346	23-26
8.	Underwater Wireless Optical Communication and Underwater Solid-State Lighting based on RGB Laser Diodes Mixed White-Light Xiaoyan Liu, Suyu Yi, Yuxin Huang, Honglan Chen, Zeyuan Qian, Runze Lin1, Xiaojie Zhou, Gufan Zhou, Xiaolin Zhou, Shuailong Zhang, Xugao Cui, Lirong Zheng, Ran Liu, Pengfei Tian Paper ID: S202-201808151715	27-29

Sr. No.	Title	Page No.
9.	Visible Light Communication System with 815 MHz-Modulation Bandwidth Based on Micro-Size Light-Emitting Diode and Post-Equalization Circuit Huamao Huang, Chao Wang, Cheng Huang, Haocheng Wu, Hong Wang Paper ID: S202-201808152031	30-33
10.	Design of A Multi-wavelength LED Photo-rejuvenating System Jing Chen, Liquan Guo, Jiping Wang, Yinhong Chen, Qi Zheng, Daxi Xiong Paper ID: S202-201808162021	34-37
11.	A Single-stage LED Driver Using Step-Down Cuk/LLC with APWM-PFM Hybird Control ZENG Lu, LIN Wei-ming Paper ID: S202-201808280913	38-41
12.	Visible Light Communication Audio Signal Transmission System Design JIANG Xiao-tong, GAO Huan, LI Ping Paper ID: S202-201809061711	42-45
13.	Design of a low temperature drift undervoltage lockout circuit-Used for GaN FET power driver IC GUO Weiling, DU Shuai, BAI Changqing, LEI Liang, ZHU Yanxu Paper ID: S202-201809071408	46-49
14.	Effects of Light Quality on Physiological Characteristics of Tomato Seedlings Zhang Tong, Chi Jianyi, Zhang Yao, Li Chengyu, Zhang Hongjie, Zhou Xiao, Qin Xinmiao, Wang Qiang Paper ID: S203-201808151555	50-53
15.	Comparison of Two LED Spectrum Engineering Approaches for Horticulture Lighting Yue Zhuo, Guoxi Sun, Youpu Ke, Chongyu Shen, Jay Guoxu Liu Paper ID: S203-201809122013	54-57
16.	Evaluating Colour Quality of Lighting: Why Meta-analysis Is Needed? Q Liu, Z Huang, B Wu, Y Liu, H Lin, W Wang Paper ID: S204-201808141732	58-61
17.	The Influence of Indoor LED Lighting on Depth Perception in Real World Tingting Zhang, Hexiang Cheng, Ling Xia, Xiaofeng Liu Paper ID: S204-201808141958	62-65
18.	The impact of LED lighting on people's work performance between different age groups Ming Ronnier Luo, Meiling Wang, Yu Liu Paper ID: S204-201808151513	66-69

Sr. No.	Title	Page No.
19.	Display white points under different ambient lighting conditions Rui Peng, Ming Ronnier Luo, Mingkai Cao, Jingyu Fang, Youn Jin Kim Paper ID: S204-201808151713	70-73
20.	Design of LED Light for Stimulating Cells in the Study of Light Therapies Jianfei Dong, Zhuowei Zhang Paper ID: S204-201808151721	74-77
21.	Lighting illuminance influence on blue light induced melatonin depression Shanshan Tang, Ya Guo, Wentao Hao, Shuai Huang, Ke Wei, Rongrong Wen, Jianqi Cai, Aiqin Luo Paper ID: S204-201808152158	78-81
22.	The Effect of Office Lighting Strobe on Human Physiology Xiaojie Zhao, Dandan Hou, Yandan Lin, Wei Xu Paper ID: S204-201808221809	82-85
23.	Effects of CRI and GAI on Emotion and Fatigue in Office Lighting Dandan Hou, Ye Ge, Yandan Lin Paper ID: S204-201808221810	86-89
24.	Study on Psychophysiological Effects of Window Glare on Human Body Sijie He, Yandan Lin Paper ID: S204-201808221812	90-94
25.	Quantitative Analysis of Full Spectrum LEDs for High Quality Lighting Jay Guoxu Liu, Wei Tang, Yonghao Qin, Guoxi Sun, Chongyu Shen Paper ID: S204-201808291921	95-99
26.	Impact Ionization in Schottky-type Al_{0.4}Ga_{0.6}N Avalanche Photodiodes Huan Yan, Wenle Zhang, Hao Jiang Paper ID: S205-201807231951	100-102
27.	High Performance (001) β-Ga₂O₃ Schottky Barrier Diode Y. G. Wang, Y. J. Lv, X. Y. Zhou, H. Y. Guo, X. B. Song, X. Tan, S. X. Liang, Y. L. Fang, Z. H. Feng, S. J. Cai Paper ID: S205-201808131701	103-104
28.	Optimal Optical Design of UV-LED Curing System with High Illumination and Luminance Uniformity Peipei Wang, Zhiliang Jin, Daxi Xiong Paper ID: S205-201808201042	105-108
29.	Simulation, Fabrication and Characterization of 3300V/10A 4H-SiC power DMOSFETs Shiyan Li, Yunfeng Chen, Hao Liu, Runhua Huang, Qiang Liu, S. Bai Paper ID: W201-201809061942	109-112

Sr. No.	Title	Page No.
30.	Design and Fabrication of 1.2kV/40mΩ 4H-SiC MOSFET Runhua Huang, Hao Liu, Tao Liu, Tongtong Yang, Song Bai, Ao Liu, Yun Li, Zhifei Zhao Paper ID: W201-201809091418	113-116
31.	Development of 1.7 kV 40 mΩ 4H-SiC Power DMOSFETs Hao Liu, Runhua Huang, Tao Liu, Ao Liu, Shiyang Li, Song Bai, Lijie Yang, Longxing Shi Paper ID: W201-201809091629	117-119
32.	Development of 6.5kV 50A 4H-SiC JBS diodes Yunfeng Chen, Ji Tan, Song Bai, Runhua Huang, Rui Li Paper ID: W201-201809102226	120-122
33.	Threshold Voltage Instability of 1200V SiC MOSFET Devices Ao Liu, Tongtong yang, Song Bai, Runhua Huang , Hao Liu Paper ID: W201-201809132116	123-126
34.	Effect of GaN barrier layer thickness on morphology and optical properties of multilayer InGaN quantum dots kai Qu, Hailiang Dong, Jianjie Liu, Gangzhi Jia, Shufang Ma, Jian Liang, Taiping Lu, Bingshe Xu Paper ID: W202-201808140813	127-131
35.	Normally-off fluoride-based plasma treatment AlGaN/GaN HEMTs with maximum fT and fmax of 61GHz/130GHz using TiN-based source ledge Ling Yang, Bin Hou, Minhan Mi, Peng Zhang, Jiejie Zhu, Meng Zhang, Qing Zhu, Yanrong Cao, Ling Lv, Xiaowei Zhou, Xiaohua Ma, Yue Hao Paper ID: W203-201808141609	132-135
36.	Simulation technology of GaN internal matching package device J. Q. Lee, Y. N. Liu, J. Cao, Z. F. Hu, Y. X. Cui, S. J. Cai Paper ID: W203-201808272109	136-138
37.	A Modified Method for Sensitive Parameters of GaN HEMTs Large Signal Model Ziyue Zhao, Yang Lu, Hengshuang Zhang, Chupeng Yi, Meng Zhang, Xinchuang Zhang, Xiaohua Ma, Yue Hao Paper ID: W203-201809071651	139-142
38.	Design and Simulation of 1800V 40A 4H-SiC SBD using TCAD Min Yuan, Houcai Luo, Chunjian Tan, Quan Zhou, Luqi Tao, Huaiyu Ye, Xianping Chen Paper ID: W205-201808131509	143-146
39.	3D CFD Simulation of High-temperature MOCVD Reactor for Epitaxial AlN Growth JK. Yang, JC. Yan, XD. Wang, H. Chen, H. Li, WJ Wang, RF. Duan, JX. Wang, YP. Zeng, JM. Li Paper ID: SW206-201808151038	147-149

Sr. No.	Title	Page No.
40.	Establishing thermal model for the design of the high-power LED headlight cooling device Haiyang Wang, Peipei Wang, Jialin Liu, Daxi Xiong Paper ID: SW207-201807231618	150-153
41.	Properties of Thermal Interface Materials and Its Impact on Thermal Dissipation and Reliability of LED Automotive Lighting Ru Li, Qian Liu, Limin Huang, Liwei Yin, Guojian Song Paper ID: SW207-201808152018	154-157
42.	Threshold Voltage Instability (PBTI) of GaN-based recessed MOS-HEMTs with Fast-IV-Sweep Method Qing Zhu, Lixiang Chen, Bin Hou, Mei Wu, Xiaohua Ma, Yue Hao Paper ID: SW207-201809072239	158-160
43.	Analysis of pulse-driven LED junction temperature and its reliability Nick G. M. Yang, Brian Y. R. Shieh, Trio F. Y. Zeng, S. W. Ricky Lee Paper ID: SW207-201809171511	161-163
44.	Semiconductor Performance in Terms of Distributions, Bath Tub Curves and Similarity Index R. Ross Paper ID: SW207-201811252039	164-168
45.	Operation behavior under extremely high injection level for GaN-based micron LED Z.Z.Chen, C.C.Li, F.Jiao, Q.Q.Jiao, J.L.Zhan, Y.B.Tao, S.Y.Wang, X.N.Kang, G.Y.Zhang, B.Shen Paper ID: SW208-201808131119	169-172
46.	A GaN Micro-LED Based Underwater Wireless Optical Communication Subjected to Sea Salt, Maalox and Chlorophyll Peiyao Wang, Honglan Chen, Xiaoyan Liu, Suyu Yi, Xiaolin Zhou, Erdan Gu, Kai Huang, Lirong Zheng, Ran Liu, Xugao Cui, Pengfei Tian Paper ID: SW208-201808152133	173-175