

MRS Advances

Electronics and Photonics

<https://doi.org/10.1557/adv.2016.659> Published online by Cambridge University Press

MRS Advances: Electronics and Photonics

Associate Editor:

David F. Bahr, *Purdue University*

Principal Editors:

Sebastian Reineke, *IAPP*

Carl-Mikael Zetterling, *Royal Institute of Technology*

Olindo Isabella, *Delft University of Technology*

Martyn McLachlan, *Imperial College London*

Jacek Furdyna, *Notre Dame*

Maria Tamargo, *City College of New York*

Chee Hing Tan, *The University of Sheffield*

Regina Ragan, *University of California, Irvine*

Thomas Cooper, *Air Force Research Laboratory*

Coskun Kocabas, *Bilkent Universitesi*

Jang-Ung Park, *UNIST*

Johan Liu, *Chalmers University of Technology*

Karlheinz Bock, *TU Dresden*

Takanobu Kiss, *Kyushu University*

Peter Trefonas, *Dow Electronic Materials*

Julien Pernot, *Universite Grenoble Alpes*

MRS Advances Editorial Board:

Chair: David F. Bahr, *Purdue University*

Asa Barber, *University of Portsmouth, United Kingdom*

Elizabeth L. Fleischer, *Materials Research Society*

Marian Kennedy, *Clemson University*

Marilyn L. Minus, *Northeastern University*

Roger J. Narayan, *University of North Carolina/North Carolina State University*

Materials Research Society Editorial Office, Warrendale, PA:

Ellen W. Kracht, *Publications Manager*

Susan Dittrich, *Journals Editorial Assistant*

Kirby L. Morris, *Journals Production Assistant*

Eileen M. Kiley, *Director of Communications*

Disclaimer

Authors of each article appearing in this Journal are solely responsible for all contents in their article(s) including accuracy of the facts, statements, and citing resources. Facts and opinions are solely the personal statements of the respective authors and do not necessarily represent the views of the editors, the Materials Research Society, or Cambridge University Press.

MRS Advances (EISSN: 2059-8521) is published by Cambridge University Press, One Liberty Plaza, Floor 20, New York, NY 10006 for the Materials Research Society.

Copyright © 2016, Materials Research Society. All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press. Policies, request forms and contacts are available at: <http://www.cambridge.org/rights/permissions/permission.htm>. Permission to copy (for users in the USA) is available from Copyright Clearance Center at: <http://www.copyright.com>, email: info@copyright.com.

Purchasing Options:

Premium Subscription- Premium Subscription includes current subscription and one year's lease access to the full MRS Online Proceedings Library Archive for \$6,875.00 / £4,655.00 / €6,330.00. **Subscription-** Subscription with perpetual access to the content subscribed to in a given year, including three years of back-file lease access to content from the MRS Online Proceedings Library Archive. The price for a 2016 subscription is \$2,875.00 / £1,855.00 / €2,500.00. **MRS Members-** Access to *MRS Advances* is available to all MRS members without charge.

Contact Details:

For all inquiries about pricing and access to *MRS Advances*, please get in touch via the following email addresses: online@cambridge.org (for the Americas); library.sales@cambridge.org (for UK, Europe, and rest of world).

journals.cambridge.org/adv

CONTENTS

* Breakthrough Performance, Reliability and Robustness of SiC Junction Transistors	3619
Siddarth Sundaresan and Ranbir Singh	
Reduction in Background Carrier Concentration for 4H-SiC C-face Epitaxial Growth	3631
Johji Nishio, Hirokuni Asamizu, Mitsuhiro Kushibe, Hidenori Kitai, and Kazutoshi Kojima	
Al⁺ Implanted Vertical 4H-SiC p-i-n Diodes: Experimental and Simulated Forward Current-voltage Characteristics	3637
Roberta Nipoti, Giovanna Sozzi, Maurizio Puzanghera, and Roberto Menozzi	
High Growth Rate 3C-SiC Growth: from Hetero-epitaxy to Homo-epitaxy	3643
F. La Via, G. Litrico, R. Anzalone, A. Severino, M. Salanitri, and S. Coffa	
Laser Irradiation Influence on Si/3C-SiC/Si Heterostructures for Subsequent 3C-SiC Membrane Elaboration.	3649
J.F. Michaud, R. Khazaka, M. Portail, G. Andrä, J. Bergmann, and D. Alquier	
Optimising the Rectification Ratio of Schottky Diodes in n-SiC and n-Si by TCAD.	3655
Hiep N. Tran, Tuan A. Bui, Geoff K. Reeves, Patrick W. Leech, Jim G. Partridge, Mohammad S.N. Alnassar, and Anthony S. Holland	

*Invited Paper