

Table of Contents

Preface

Isolation Structure for Monolithic Integration of Planar CMOS and 1.7 kV Vertical Power MOSFET on 4H-SiC by High Energy Ion Implantation Y.J. Lin, C.H. Chen, M.H. Wang and B.Y. Tsui	1
Impact of Silicon Nitride Stress on Defects Generation in 4H-SiC and the Effect of Sacrificial Oxidation on Defects Reduction K.W. Hsu, H.L. Huang, C.L. Hung, Y.K. Hsiao and B.Y. Tsui	9
Impact of Interfacial SiO₂ Layer Thickness on the Electrical Performance of SiO₂/High-K Stacks on 4H-SiC S. Krause, A. Mikhaylov, U. Schroeder, T. Mikolajick and A. Wachowiak	17
Evolution of the Electrical and Microstructural Properties of Mo/4H-SiC Contact with the Annealing Temperature M. Vivona, P. Fiorenza, G. Greco, S. Di Franco, G. Bellocchi, P. Mancuso, S. Rascunà, A.M. Mio, G. Nicotra, F. Giannazzo and F. Roccaforte	27
Rapid Thermal Anneal with Conductive Heating for SiC Contact Formation X. Pages, S. van der Linde, J. Oterdoom, M. Steltenpool, V. Kuznetsov, J. Beijersbergen, M. Sanchez and S. Kerdilès	33
The Investigation of Effective Thermal Oxidation to SiC MOSFET Gate Oxide Quality Improvement Y.B. Im, I.K. Kim, J.Y. Yoon, J.G. Lee, G.H. Park, J.S. Lim, J.W. Son, J.H. Lee, Y.J. Jang and C.B. Jeong	41
A Simplified Method for Extracting Contact Resistivity Using the Circular Transmission Line Model J.H. Park, J.J.H. Kim, A. Kumar, J. Zacks, D. Flint, D.J. Lichtenwalner and S.H. Ryu	47
BCl₃ Plasma Treatment for Enhanced Ohmic Contact Performance to p-Type 4H-SiC A.H. Yeo, Q.G.R. Voo, L.K. Bera, U. Chand, N. Singh, S. Chung, X.S. Nguyen, Z.J. Quek, A. Ranjan, V.P.K. Reddy, S.J.G. Ho, S.K. Lim, M.O. Omar, J.W. Xie, Y.C. Yeo and X. Gong	53
Advantages of Backside Metal Contact Resistance on 4H-SiC Bonded Substrates for Power Devices M. Kobayashi, H. Uchida, N. Hatta, S. Ishikawa, Y. Higashi, H. Sezaki, S. Harada and K. Kojima	59
Investigation of Interface and Reliability of 3C- and 4H-SiC MOS Structures through Gate Dielectric Stacking and Post-Deposition Annealing M.A. Yildirim, V.A. Shah, M. Antoniou, A. Newton, S. Bolat, G. Colston, A. Graham, R. Jefferies, J.A. Gott, K. Perera, M.J. Powell, P.M. Gammon, P.A. Mawby, R. Gunn and A.B. Renz	67
Deep Implanted SiC Super-Junction Technology R. Ghandi, C. Hitchcock and S. Kennerly	75
Improved Angle Tolerance in 4H-SiC Trench Filling Epitaxy Using Chlorinated Chemistry R. Grover, K. Turner, G. Colston, A.B. Renz, M. Antoniou, P.M. Gammon, P.A. Mawby and V.A. Shah	81
Study of SiC Trench Etching Characteristics for Different Crystal Planes A. Ranjan, L.K. Bera, S. Kumar, H.M. Lin, U. Chand, N. Singh, S. Chung, A.H. Yeo, Q.G.R. Voo, A. Sundaram, L.Y. Liu and J.W.Y. Kam	87