

Journal of ELECTRONIC MATERIALS

Volume 41, No. 8

CONTENTS

August 2012

PAGE REGULAR ISSUE PAPERS



- 2029 Internal Microstructure Investigation of Tin Whisker Growth Using FIB Technology
Aleksandra Fortier and Radovan Kovacevic
- 2035 Liquid-Phase Separation in the Interdendritic Region After Growth of Primary β -Sn in Undercooled Sn-2.8Ag-0.3Cu Melt
Yoshiko Takamatsu, Hisao Esaka, and Kei Shinozuka
- 2045 Cu_5Zn_8 Growth Reversion in Cu/Sn-8Zn-3Bi/Cu During Discontinuous Electromigration
Jibin Liu, Wei Zhou, Lijuan Liu, and Ping Wu
- 2051 Reactive Wetting Processes and Triple-Line Configuration of Sn-3.5Ag on Cu Substrates at Elevated Temperatures
Likun Zang, Zhangfu Yuan, Zhanmin Cao, Hiroyuki Matsuura, and Fumitaka Tsukihashi
- 2057 Nanoindentation Creep Behavior of Nanocomposite Sn-Ag-Cu Solders
A. Roshanghias, A.H. Kokabi, Y. Miyashita, Y. Mutoh, I. Ihara, R.G. Guan Fatt, and H.R. Madaah-Hosseini
- 2065 Electronic Properties as a Function of Ag/Sb Ratio in $\text{Ag}_{1-y}\text{Pb}_{18}\text{Sb}_{1+2}\text{Te}_{20}$ Compounds
Jayaram Dadda, Eckhard Müller, Benedikt Klobes, Paula Bauer Pereira, and Raphael Hermann
- 2073 Microstructure and Tensile Properties of Sn-1Ag-0.5Cu Solder Alloy Bearing Al for Electronics Applications
Dhafer Abdul-Ameer Shnawah, Suhana Binti Mohd Said, Mohd Faizul Mohd Sabri, Irfan Anjum Badruddin, Teh Guan Hoe, Fa Xing Che, and Adnan Naama Abood
- 2083 The Effect of Crystallographic Orientation on the Mechanical Behavior of Cu_6Sn_5 by Micropillar Compression Testing
Ling Jiang, Hanqing Jiang, and Nikhilesh Chawla
- 2089 Modeling Fracture of Sn-Rich (Pb-Free) Solder Joints Under Mechanical Shock Conditions
Huiyang Fei, Kyle Yazzie, Nikhilesh Chawla, and Hanqing Jiang
- 2100 Solder Characteristics of a Rapidly Solidified Sn-9Zn-0.1Cr Alloy and Mechanical Properties of Cu/Solder/Cu Joints
Guoji Zhao, Guangmin Sheng, Jun Luo, and Xinjian Yuan
- 2107 Reliability of Au-Ge and Au-Si Eutectic Solder Alloys for High-Temperature Electronics
Vivek Chidambaram, Ho Beng Yeung, and Gao Shan
- 2118 Effect of Addition of Ag, In or Pb on the Structure and Thermoelectric Performance of β - Zn_4Sb_3
F.S. Liu, L.C. Pan, W.Q. Ao, L.P. He, X.X. Li, H.T. Li, and J.Q. Li
- 2126 Impurity Band Effects in Thermoelectric Materials
H.J. Goldsmid
- 2130 Analysis of Interface Scattering in AlGaIn/GaN/InGaIn/GaN Double-Heterojunction High-Electron-Mobility Transistors
Lin Wang, Weida Hu, Xiaoshuang Chen, and Wei Lu
- 2139 Effect of Nitridation on the Regrowth Interface of AlGaIn/GaN Structures Grown by Molecular Beam Epitaxy on GaN Templates
Yuen-Yee Wong, Wei-Ching Huang, Hai-Dang Trinh, Tsung-Hsi Yang, Jet-Rung Chang, Micheal Chen, and Edward Yi Chang
- 2145 Electrical Characteristics of Ti/Al Ohmic Contacts to Molecular Beam Epitaxy-Grown N-polar *n*-type GaN for Vertical-Structure Light-Emitting Diodes
Joon-Woo Jeon, Tae-Yeon Seong, and Gon Namgoong
- 2151 ZnO Grown on (111) ZnS Substrates by Plasma-Assisted Molecular Beam Epitaxy
Kuaile Zhao, Shaoping Wang, and A. Shen
- 2155 Low-Temperature Synthesis of Fe-Doped ZnO Nanotubes
Gopal Sapkota, Karol Gryczynski, Roy McDougald, Arup Neogi, and U. Philipose
- 2162 Fabrication of Bistable Switching Memory Devices Utilizing Polymer-ZnO Nanocomposites
A. Kathalingam and Jin-Koo Rhee

- 2169 Laser Trimming of CuAlMo Thin-Film Resistors: Effect of Laser Processing Parameters
Martin Birkett and Roger Penlington
- 2178 Effect of Cu Substitution on the Magnetic Properties of SmCo₅ Film with Perpendicular Magnetic Anisotropy
Weiming Cheng, Yifan Dai, Hao Hu, Xiaomin Cheng, and Xiangshui Miao
- 2184 Fabrication and Circuit Modeling of NMOS Inverter Based on Quantum Dot Gate Field-Effect Transistors
Supriya Karmakar, John A. Chandy, Mukesh Gogna, and Faquir C. Jain
- 2193 Tunneling Atomic Force Microscopy Studies on Surface Growth Pits Due to Dislocations in 4H-SiC Epitaxial Layers
Noboru Ohtani, Shoji Ushio, Tadaaki Kaneko, Takashi Aigo, Masakazu Katsuno, Tatsuo Fujimoto, and Wataru Ohashi
- 2197 Physical and Electrical Properties of Dy₂O₃ and Dy₂TiO₅ Metal Oxide–High- κ Oxide–Silicon-Type Nonvolatile Memory Devices
Fa-Hsyang Chen and Tung-Ming Pan
- 2204 Optical and Electrical Properties of Cu₂ZnSnS₄ Film Prepared by Sulfurization Method
Feng Jiang, Honglie Shen, and Wei Wang
- 2210 A Comparative Study of Co-electrodeposited Cu₂ZnSnS₄ Absorber Material on Fluorinated Tin Oxide and Molybdenum Substrates
Prashant K. Sarswat and Michael L. Free
- 2216 The Effect of Heat Treatment on Structural and Multiferroic Properties of Phase-Pure BiFeO₃
M. Yasin Shami, M.S. Awan, and M. Anis-ur-Rehman
- 2225 High-Temperature Oxidation Behavior of Filled Skutterudites Yb₃Co₄Sb₁₂
Xugui Xia, Pengfei Qiu, Xun Shi, Xiaoya Li, Xiangyang Huang, and Lidong Chen
- 2232 Effects of Ethylenediamine Tetraacetic Acid on the Texture and Magnetic Properties of Barium Ferrite Films
Fang Li, Wanli Zhang, Bin Peng, and Wenxu Zhang
- 2238 Enhancing Piezoelectric Performance of CaBi₂Nb₂O₉ Ceramics Through Microstructure Control
Huanbei Chen and Jiwei Zhai
- 2243 Effects of Frequency on AC Conductivity and Magnetoresistance in Doped La_{0.65}Ca_{0.35}MnO₃ Manganites
Wiqar Hussain Shah and Akif Safeen
- 2250 Effect of Mn and Nb Doped BaTiO₃ in the Dielectric Properties in the Ba(Mn_{1/2}Nb_{1/2})_xTi_{1-x}O₃
Faiza Boujelben, H. Khemakhem, and A. Simon
- 2256 Development of Metallic Hermetic Sealing for MEMS Packaging for Harsh Environment Applications
Vivek Chidambaram, Ho Beng Yeung, and Gao Shan
- 2267 Metal/PET Composite Knitted Fabrics and Composites: Structural Design and Electromagnetic Shielding Effectiveness
Chen-Hung Huang, Jia-Horng Lin, Ruey-Bin Yang, Ching-Wen Lin, and Ching-Wen Lou
- 2274 Vapor-Assisted Surface Activation Method for Homo- and Heterogeneous Bonding of Cu, SiO₂, and Polyimide at 150°C and Atmospheric Pressure
Akitsu Shigetou and Tadatomo Suga
- 2281 Dielectric and Thermal Properties of Polyimide–Poly(ethylene oxide) Nanofoamed Films
Yi-He Zhang, Li Yu, Li-Hang Zhao, Wang-Shu Tong, Hai-Tao Huang, Shan-Ming Ke, and H.L.W. Chan

REVIEW PAPER

- 2286 Embedded Capacitors in Printed Wiring Board: A Technological Review
Mohammed A. Alam, Michael H. Azarian, and Michael G. Pecht

ERRATA

- 2304 Erratum to: Electrical Characteristics of Ti/Al Ohmic Contacts to Molecular Beam Epitaxy-Grown N-polar *n*-type GaN for Vertical-Structure Light-Emitting Diodes
Joon-Woo Jeon, Tae-Yeon Seong, and Gon Namkoong
- 2305 Erratum to: Effects of Pulsed Laser Deposition Conditions on the Microstructure of Ca₃Co₄O₉ Thin Films
Ting Sun, Huey Hoon Hng, Qingyu Yan, and Jan Ma