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# **Low-Dielectric Constant Materials IV**

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**High Frequency Characterization Technique** Ge Song,2001 *Index of Conference Proceedings* British Library.

Document Supply Centre,1998 **Low-dielectric Constant Materials** ,1997 Forthcoming Books Rose Army,1997

**International Journal of Materials & Product Technology** ,2003 Chemistry in Microelectronics Yannick Le Tiec,2013-02-28 Chemistry in Microelectronics Microelectronics is a complex world where many sciences need to collaborate to create nano objects we need expertise in electronics microelectronics physics optics and mechanics also crossing into chemistry electrochemistry as well as biology biochemistry and medicine Chemistry is involved in many fields from materials chemicals gases liquids or salts the basics of reactions and equilibrium to the optimized cleaning of surfaces and selective etching of specific layers In addition over recent decades the size of the transistors has been drastically reduced while the functionality of circuits has increased This book consists of five chapters covering the chemicals and sequences used in processing from cleaning to etching the role and impact of their purity along with the materials used in Front End Of the Line which corresponds to the heart and performance of individual transistors then moving on to the Back End Of the Line which is related to the interconnection of all the transistors Finally the need for specific functionalization also requires key knowledge on surface treatments and chemical management to allow new applications **Scientific Basis for Nuclear Waste Management** ,1999 **Gallium Nitride and Related Materials II: Volume 468** C. R. Abernathy,H. Amano,J. C. Zolper,1997-08-13 This book from MRS dedicated to III Nitrides focuses on developments in AlN GaN InN and their alloys that are now finding application in short wavelength lasers 400nm cw at room temperature and high power electronics 2 8W mm at GHz Experts from fields including crystal growth condensed matter theory source chemistry device processing and device design come together in the volume to address issues of both scientific and technological relevance And while much of the book reports on advances in material preparation and the understanding of defect issues similar advances in material and device processing are also reported Topics include growth and doping substrates and substrate effects characterization processing and device performance and design **Low Dielectric Constant Materials for IC Applications** Paul S. Ho,Jihperng Leu,Wei William Lee,2012-12-06 Low dielectric constant materials are an important component of microelectronic devices This comprehensive book covers the latest low dielectric constant low k materials technology thin film materials characterization integration and reliability for back end interconnects and packaging applications in microelectronics Highly informative contributions from leading academic and industrial laboratories provide comprehensive information about materials technologies for **Flat Panel Display Materials III: Volume 471** Ron Fulks,1997-09-10 Flat panel displays are rapidly becoming the displays of choice for a variety of information displaying applications ranging from

laptop computers to automobile and cockpit read out devices Passive matrix liquid crystal displays and more recently active matrix liquid crystal displays AMLCDs have led the way in the display revolution In addition emissive displays based on field emission electroluminescence and plasma charge are attracting considerable interest Ultimately however the advancement in flat panel display applications will be driven by cost and performance advantages which are dependent on the advancement of materials and process technologies used to fabricate the displays This book focuses on the materials and large area processes used by the various display technologies both emissive and nonemissive including liquid crystal electroluminescent plasma field emission and micromechanical displays Topics include AMLCD materials and processes thin film transistors for AMLCDs emissive displays and materials and phosphor materials **Infrared Applications of**

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Clement, 1997-10-20 The inexorable drive for increased integrated circuit functionality and performance places growing demands on the metal and dielectric thin films used in fabricating these circuits as well as spurring demand for new materials applications and processes This book directly addresses issues of widespread concern in the microelectronics industry smaller feature sizes new materials and new applications that challenge the reliability of new technologies While the book continues the focus on issues related to interconnect reliability such as electromigration and stress particular emphasis is placed on the effects of microstructure An underlying theme is understanding the importance of interactions among different materials and associated interfaces comprising a single structure with dimensions near or below the micrometer scale Topics include adhesion and fracture gate oxide growth and oxide interfaces surface preparation and gate oxide reliability oxide degradation and defects micro structure texture and reliability novel measurement techniques interconnect performance and reliability modeling electromigration and interconnect reliability and stress and stress relaxation

**Nitride Semiconductors: Volume 482** Materials Research Society. Meeting, 1998-04-20 This book is on recent experimental and theoretical progress in the rapidly growing field of III V nitrides Issues related to crystal growth bulk and thin films structure and microstructure formation of defects doping alloying formation of heterostructures determination of physical properties and device fabrication and evaluation are addressed Papers show much progress in the growth and understanding of III V nitrides and in the production of optoelectronic devices based on these materials Most exciting is the fact that light emitting diodes and laser diodes have now reached amazing levels of performance which forecasts a revolution in lighting optical storage printing and display technologies Topics include crystal growth bulk growth early stages of epitaxy crystal growth MOCVD growth techniques MBE and HVPE novel substrates and growth techniques structural properties

electronic properties luminescence and recombination characterization elemental and stress analysis physical modelling device processing implantation annealing device characterization contacts degradation and injection laser diodes and applications     Interfacial Engineering for Optimized Properties II: Volume 586 C. Barry Carter, 2000-10-02 The MRS Symposium Proceeding series is an internationally recognised reference suitable for researchers and practitioners This book first published in 2000 concentrates on the preparation and processing of interfaces the relationships between chemistry and structure and the properties and behavior of interfaces particularly in relation to strength and bonding     Organic/Inorganic Hybrid Materials II: Volume 576 Lisa C. Klein, 1999-11-10 The MRS Symposium Proceeding series is an internationally recognised reference suitable for researchers and practitioners     *Thin Films - Stresses and Mechanical Properties VIII: Volume 594* Richard Vinci, Richard Paul Vinci, 2000-09-25 The MRS Symposium Proceeding series is an internationally recognised reference suitable for researchers and practitioners     Chemical Processing of Dielectrics, Insulators and Electronic Ceramics: Volume 606 Anthony C. Jones, 2000-08-04 The MRS Symposium Proceeding series is an internationally recognised reference suitable for researchers and practitioners     **Materials for Optical Limiting II: Volume 479** Richard Lee Sutherland, Richard Sutherland, 1997-12-30 The proliferation of lasers and systems employing lasers has brought with it the potential for adverse effects from these bright coherent light sources This includes the possibility of damage from pulsed lasers as well as temporary blinding by continuous wave lasers With nearly every wavelength possible being emitted by these sources there exists a need to develop optical limiters and tunable filters which can suppress undesired radiation of any wavelength This book addresses a number of materials and devices which have the potential for meeting the challenge The proceedings is divided into five parts Parts I and II cover research in organic and inorganic materials primarily based on nonlinear absorption or phase transitions for optical limiting of pulsed lasers Part III includes photo refractive materials and liquid crystals which find primary applications in dynamic filters Part IV covers various aspects of device and material characterization including nonlinear beam propagation effects Theoretical modelling of materials properties is the subject of Part V

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