

The book was found

Advanced Interconnects For ULSI Technology



Synopsis

Finding new materials for copper/low-k interconnects is critical to the continuing development of computer chips. While copper/low-k interconnects have served well, allowing for the creation of Ultra Large Scale Integration (ULSI) devices which combine over a billion transistors onto a single chip, the increased resistance and RC-delay at the smaller scale has become a significant factor affecting chip performance. Advanced Interconnects for ULSI Technology is dedicated to the materials and methods which might be suitable replacements. It covers a broad range of topics, from physical principles to design, fabrication, characterization, and application of new materials for nano-interconnects, and discusses: Interconnect functions, characterisations, electrical properties and wiring requirements Low-k materials: fundamentals, advances and mechanical properties Conductive layers and barriers Integration and reliability including mechanical reliability, electromigration and electrical breakdown New approaches including 3D, optical, wireless interchip, and carbon-based interconnects Intended for postgraduate students and researchers, in academia and industry, this book provides a critical overview of the enabling technology at the heart of the future development of computer chips.

Book Information

Hardcover: 606 pages

Publisher: Wiley; 1 edition (April 2, 2012)

Language: English

ISBN-10: 0470662549

ISBN-13: 978-0470662540

Product Dimensions: 7 x 1.3 x 10 inches

Shipping Weight: 2.4 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,236,222 in Books (See Top 100 in Books) #47 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Circuits > VLSI & ULSI #247

in Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Logic #384 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Circuits > Design

Customer Reviews

Finding new materials for copper/low-k interconnects is critical to the continuing development of computer chips. While copper/low-k interconnects have served well, allowing for the creation of

Ultra Large Scale Integration (ULSI) devices which combine over a billion transistors onto a single chip, the increased resistance and RC-delay at the smaller scale has become a significant factor affecting chip performance. Advanced Interconnects for ULSI Technology is dedicated to the materials and methods which might be suitable replacements. It covers a broad range of topics, from physical principles to design, fabrication, characterization, and application of new materials for nano-interconnects, and discusses: Interconnect functions, characterisations, electrical properties and wiring requirements Low-k materials: fundamentals, advances and mechanical properties Conductive layers and barriers Integration and reliability including mechanical reliability, electromigration and electrical breakdown New approaches including 3D, optical, wireless interchip, and carbon-based interconnects Intended for postgraduate students and researchers, in academia and industry, this book provides a critical overview of the enabling technology at the heart of the future development of computer chips.

Mikhail R. BaklanovIMEC, Leuven, BelgiumPaul S. HoLaboratory for Interconnect and Packaging, University of Texas at Austin, Austin, Texas, USAEhrenfried ZschechFraunhofer Institute for Nondestructive Testing, Dresden, Germany

[Download to continue reading...](#)

Advanced Interconnects for ULSI Technology Advanced Metallization and Interconnect Systems for ULSI Applications in 1995: Volume 11 (MRS Conference Proceedings) Semiconductor Materials and Process Technology Handbook (VLSI and ULSI) Photonic Interconnects for Computing Systems: Understanding and Pushing Design Challenges (River Publishers Series in Optics and Photonics) Reliability of RoHS-Compliant 2D and 3D IC Interconnects (Electronic Engineering) Nanoscale Technology for Advanced Lithium Batteries (Nanostructure Science and Technology) Blockchain: Step By Step Guide To Understanding The Blockchain Revolution And The Technology Behind It (Information Technology, Blockchain For Beginners,Bitcoin, Blockchain Technology) Fintech: Simple and Easy Guide to Financial Technology(Fin Tech, Fintech Bitcoin, financial technology fintech, Fintech Innovation, Fintech Gold, ... technology,equity crowdfunding) (Volume 1) FINTECH: Simple and Easy Guide to Financial Technology(Fin Tech, Fintech Bitcoin, financial technology fintech, Fintech Innovation, Fintech Gold, Financial services technology,equity crowdfunding) Advanced Funk Studies: Creative Patterns for the Advanced Drummer Sound Innovations for String Orchestra -- Sound Development (Advanced): Warm-up Exercises for Tone and Technique for Advanced String Orchestra (Cello) Clarinet Secrets: 100 Performance Strategies for the Advanced Clarinetist (Music Secrets for the Advanced Musician) Sound Innovations for

String Orchestra -- Sound Development (Advanced): Warm-up Exercises for Tone and Technique for Advanced String Orchestra (Viola) Sound Innovations for String Orchestra -- Sound Development (Advanced): Warm-up Exercises for Tone and Technique for Advanced String Orchestra (Violin) Ultimate French Advanced (CD Pkg) (Ultimate Advanced) Michel Thomas Speak French Advanced: 5-CD Advanced Program Python Programming Advanced: A Complete Guide on Python Programming for Advanced Users Advanced German (Berlitz Advanced) (German Edition) Michel Thomas Speak Italian Advanced: 5-CD Advanced Program (Michel Thomas Series) Ultimate Italian Advanced (Book and CD Set): Includes Comprehensive Coursebook and 8 Audio CDs (Ultimate Advanced)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)