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Collana	Handbooks in science and technology
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Nota di contenuto	Front Cover; VLSI Handbook; Copyright Page; Table of Contents; Contributors; Preface; Acronyms; Chapter 1. Factors Contributing to Increased VLSI Circuit Density; I. Introduction; II. Factors Influencing Circuit Density; Chapter 2. Fundamental Principles of Very Large Scale Integrated Circuit Design; I. Introduction; II. VLSI Design Methodology; III. Elements of VLSI Circuit Design; IV. Basics of Layout Design; V. Future Developments; References; Chapter 3. Design Automation for Integrated Circuits; I. Introduction; II. A Design through Various Levels of Abstraction III. A Typical Design ProcedureIV. Semicustom Design Methodologies; V. Building of Cell or Macro Library; VI. Semicustom Layout; VII. Comparison between Semicustom Methodologies; VIII. Trends in Design Automation; IX. Conclusion; Glossary; Bibliography; Chapter 4. Computer Tools for Integrated Circuit Design; I. IC Design and Development; II. Applying Computers in the Development Process; III. Availability of CAD Tools; IV. CONCLUSION; References; Chapter 5. VLSI to Go: The Silicon Foundry; I. Introduction; II. The Silicon Foundry Concept; III. The Foundry Interface; IV. Processing V. Post ProcessingVI. CONCLUSION; References; Chapter 6. Manufacturing Process Technology for MOS VLSI; I. Introduction; II. Directions in Process Technology; III. Process Control; References; Chapter 7. Facilities for VLSI Circuit Fabrication; I. Clean Air; II. Water; III. Provision of Other Supplies; IV. Vacuum; V. Waste Disposal; VI. Physical Considerations; VII. Protection of Personnel, Equipment, and

Product; VIII. Personnel Efficiency; IX. Facility Management System; References; Chapter 8. MOS VLSI Circuit Technology; I. Introduction; II. MOSFET Structures; III. MOS Circuits
IV. Power-Delay Performance of MOS and Bipolar CircuitsV. Conclusion; References; Chapter 9. Bipolar VLSI Circuit Technology; I. Introduction; II. Bipolar Transistors; III. Bipolar Digital Gate Circuits; References; Chapter 10. CMOS VLSI Technology; I. Advantages of Circuit Design with CMOS; II. A State-of-the-Art CMOS Process Flow; III. Problems of Optimization of CMOS Processing; IV. Problems of Interconnects for CMOS; V. Discontinuities in CMOS Technology; Bibliography; Chapter 11. New Directions in Microprocessors; I. Introduction; II. Memory Management; III. Cache; IV. Pipelining
V. System TimingVI. Peripheral Controllers; VII. Current Implementations; Chapter 12. VLSI Random Access Memories; I. Introduction; II. Static RAM; III. Dynamic RAM; IV. Specialty RAMs; Glossary; Chapter 13. VLSI Electrically Erasable Programmable Read Only Memory; I. Principle of Operation; II. Programming Characteristics; III. Performance and Reliability; IV. Scaling; List of Symbols; References; Chapter 14. Electrical Transport Properties of Silicon; I. Introduction; II. Definition of Transport: The Transport Equation; III. Conversion between Resistivity and Dopant Density
IV. Mobility of Charge Carriers

Sommario/riassunto

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