Unlock the Secrets of VLSI Power Distribution Network Design

In the realm of Very Large Scale Integration (VLSI),power distribution networks (PDNs) play a pivotal role in ensuring the reliable and efficient operation of complex electronic systems. A well-designed PDN minimizes power loss, reduces noise, and prevents catastrophic failures. However, designing PDNs for VLSI circuits is a complex and challenging task, requiring a deep understanding of electrical engineering principles.

The book "Power Distribution Network Design for VLSI" is a comprehensive guide to the theory and practice of PDN design. Written by renowned experts in the field, this book offers a systematic and accessible approach to understanding the key concepts and techniques involved in PDN design.

- **In-depth coverage of PDN theory and principles:** The book provides a solid foundation in PDN fundamentals, including inductance, capacitance, and resistance, as well as the impact of these parameters on power distribution.

- **Practical design methodologies:** Step-by-step instructions guide you through the process of designing PDNs for a variety of VLSI circuits, including digital, analog, and mixed-signal designs.

- **Advanced topics and emerging trends:** The book covers cutting-edge topics such as power integrity analysis, thermal modeling, and electromagnetic interference (EMI) suppression.

- **Real-world case studies and examples:** Numerous case studies and practical examples illustrate the application of PDN design techniques

in real-world scenarios.

- **Improved circuit performance:** A well-designed PDN ensures stable and reliable power supply to all circuit elements, leading to improved circuit performance and reduced risk of malfunctions.

- **Reduced power consumption:** Optimized PDNs minimize power loss, resulting in reduced power consumption and improved energy efficiency.

- **Increased circuit lifetime:** A properly designed PDN prevents overheating and electrical breakdowns, extending the lifespan of VLSI circuits.

- **Enhanced design confidence:** By providing a comprehensive understanding of PDN design principles, the book empowers engineers to make informed decisions and develop robust power distribution networks.

- VLSI design engineers

- Power integrity analysts

- Chip designers

- Researchers in the field of VLSI power distribution

- Anyone interested in understanding the complexities of PDN design for VLSI circuits

- **Dr. Amir Ameri:** An award-winning professor and researcher with over 20 years of experience in VLSI power distribution and power integrity analysis.

- **Dr. Mohamed Badaroglu:** A renowned expert in the field of VLSI design and reliability.

"Power Distribution Network Design for VLSI" is the definitive guide to understanding, designing, and optimizing PDNs for VLSI circuits. With its comprehensive coverage, practical methodologies, and real-world examples, this book empowers engineers to unlock the full potential of VLSI power distribution networks.
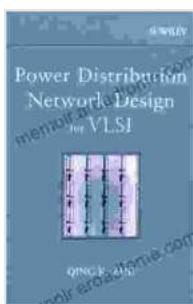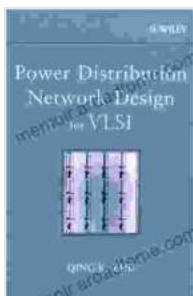
Power Distribution Network Design for VLSI by Qing K. Zhu

★★★★☆ 4 out of 5

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Text-to-Speech	: Enabled
Print length	: 207 pages
Lending	: Enabled

Get your copy today and take the next step towards designing efficient, reliable, and high-performance VLSI systems.

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