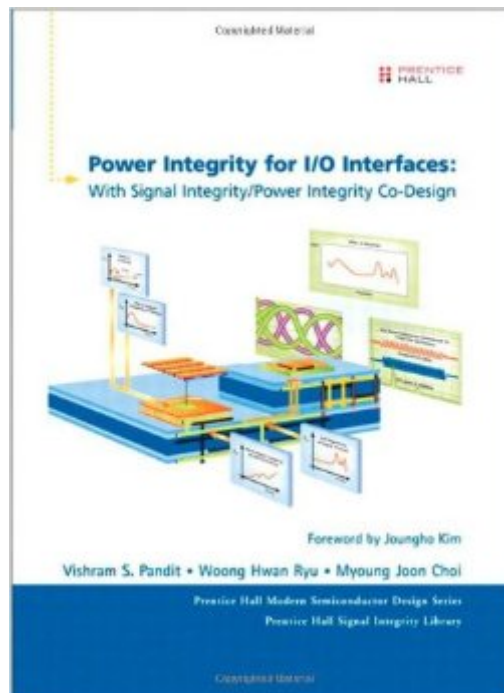


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# Power Integrity For I/O Interfaces: With Signal Integrity/ Power Integrity Co-Design (Prentice Hall Modern Semiconductor Design)



## Synopsis

Foreword by Jounggho Kim    The Hands-On Guide to Power Integrity in Advanced Applications, from Three Industry Experts    In this book, three industry experts introduce state-of-the-art power integrity design techniques for today's most advanced digital systems, with real-life, system-level examples. They introduce a powerful approach to unifying power and signal integrity design that can identify signal impediments earlier, reducing cost and improving reliability.    After introducing high-speed, single-ended and differential I/O interfaces, the authors describe on-chip, package, and PCB power distribution networks (PDNs) and signal networks, carefully reviewing their interactions. Next, they walk through end-to-end PDN and signal network design in frequency domain, addressing crucial parameters such as self and transfer impedance. They thoroughly address modeling and characterization of on-chip components of PDNs and signal networks, evaluation of power-to-signal coupling coefficients, analysis of Simultaneous Switching Output (SSO) noise, and many other topics.    Coverage includes    The exponentially growing challenge of I/O power integrity in high-speed digital systems    PDN noise analysis and its timing impact for single-ended and differential interfaces    Concurrent design and co-simulation techniques for evaluating all power integrity effects on signal integrity    Time domain gauges for designing and optimizing components and systems    Power/signal integrity interaction mechanisms, including power noise coupling onto signal trace and noise amplification through signal resonance    Performance impact due to Inter Symbol Interference (ISI), crosstalk, and SSO noise, as well as their interactions    Validation techniques, including low impedance VNA measurements, power noise measurements, and characterization of power-to-signal coupling effects    Power Integrity for I/O Interfaces will be an indispensable resource for everyone concerned with power integrity in cutting-edge digital designs, including system design and hardware engineers, signal and power integrity engineers, graduate students, and researchers.

## Book Information

Series: Prentice Hall Modern Semiconductor Design

Hardcover: 416 pages

Publisher: Prentice Hall; 1 edition (October 23, 2010)

Language: English

ISBN-10: 0137011199

ISBN-13: 978-0137011193

Product Dimensions: 7.3 x 1 x 9.4 inches

Shipping Weight: 1.7 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars Â Â See all reviews Â (2 customer reviews)

Best Sellers Rank: #760,047 in Books (See Top 100 in Books) #132 in Â Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors #149991 in Â Books > Textbooks #181778 in Â Books > Reference

## Customer Reviews

It's actually an awesome technical book... very detailed and specific book to describe power/signal integrity co-design for I/O interfaces... covered from theory to application...

Good product

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