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Titolo	On-Chip Power Delivery and Management [[electronic resource] /] / by Inna P. Vaisband, Renatas Jakushokas, Mikhail Popovich, Andrey V. Mezhiba, Selçuk Köse, Eby G. Friedman
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Edizione	[4th ed. 2016.]
Descrizione fisica	1 online resource (750 p.)
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Soggetti	Electronic circuits Electronics Microelectronics Circuits and Systems Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	From the Contents: Introduction -- Inductive Properties of Electric Circuits -- Properties of On-Chip Inductive Current Loops -- Electromigration -- Scaling Trends of On-Chip Power Distribution Noise -- High Performance Power Distribution Systems -- On-Chip Power Distribution Networks -- Computer-Aided Design and Analysis -- Closed Form Expressions for Fast IR Drop Analysis.
Sommario/riassunto	This book describes methods for distributing power in high speed, high complexity integrated circuits with power levels exceeding many tens of watts and power supplies below a volt. It provides a broad and cohesive treatment of power delivery and management systems and related design problems, including both circuit network models and design techniques for on-chip decoupling capacitors, providing insight and intuition into the behavior and design of on-chip power distribution systems. Organized into subareas to provide a more intuitive flow to the reader, this fourth edition adds more than a hundred pages of new content, including inductance models for interdigitated structures, design strategies for multi-layer power grids,

advanced methods for efficient power grid design and analysis, and methodologies for simultaneously placing on-chip multiple power supplies and decoupling capacitors. The emphasis of this additional material is on managing the complexity of on-chip power distribution networks.