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   Nota di contenuto Components of Analog CMOS ICs -- Basic MOS Amplifiers: DC and Low
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   Sommario/riassunto This textbook is ideal for senior undergraduate and graduate courses
                     in RF CMOS circuits, RF circuit design, and high-frequency analog
                     circuit design. It is aimed at electronics engineering students, as well as
                     IC design engineers in the field, who wish to gain a deeper
                     understanding of circuit fundamentals and go beyond the widely-used
                     automated design procedures. A design-centric approach is adopted in
                     order to bridge the gap between fundamental analog electronic circuits
                     textbooks and more advanced RF IC design texts. The structure and
                     operation of the building blocks of high-frequency ICs are introduced
                     in a systematic manner, with an emphasis on transistor-level operation,
                     the influence of device characteristics and parasitic effects, and input-
                     output behavior in the time and frequency domains. This second
                     edition has been revised extensively to expand and clarify some of the
                     key topics and to provide a wide range of design examples and
                     problems. New material has been added for basic coverage of core

topics, such as wide-band LNAs, noise feedback concept and noise cancellation, inductive-compensated band widening techniques for flat-gain or flat-delay characteristics, and basic communication system concepts that exploit the convergence and co-existence of Analog and Digital building blocks in RF systems. A new chapter (Chapter 5) has been added on Noise and Linearity, addressing key topics in a comprehensive manner. All of the other chapters have also been revised and largely re-written, with the addition of numerous solved design examples and exercise problems. Designed for senior undergraduate and graduate courses in RF CMOS circuits, RF circuit design, and high-frequency analog circuit design; Uses simple circuit models to enable a robust understanding of high-frequency design fundamentals; Employs solved design examples to familiarize the reader with the design flow, starting with knowledge-based and model-based hand-design and progressing to SPICE simulations; Introduces fine-tuning procedures in circuit design with an emphasis on key trade-offs; Demonstrates key criteria and parameters that are used to describe system-level performance. .