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Titolo	MOSFET modeling for circuit analysis and design [[electronic resource] /] / Carlos Galup-Montoro, Marcio Cherem Schneider
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ISBN	1-281-12087-1 9786611120870 981-270-759-X
Descrizione fisica	1 online resource (445 p.)
Collana	International series on advances in solid state electronics and technology
Altri autori (Persone)	SchneiderMarcio Cherem
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Soggetti	Metal oxide semiconductor field-effect transistors - Mathematical models Field-effect transistors - Mathematical models Electronic books.
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	Foreword; Preface; Contents; List of Selected Symbols; Chapter 1 Introduction; Chapter 2 The MOS Capacitor; Chapter 3 The Long-Channel MOSFET: Theory and dc Equations; Chapter 4 The Real MOS Transistor: dc Models; Chapter 5 Stored Charges and Capacitive Coefficients; Chapter 6 Mismatch Modeling; Chapter 7 Noise in MOSFETs; Chapter 8 High-Frequency Models; Chapter 9 Gate and Bulk Currents; Chapter 10 Advanced MOSFET Structures; Chapter 11 MOSFET Parameter Extraction; Chapter 12 Advanced MOSFET Models for Circuit Simulators; Appendix A Electrostatics in One Dimension Appendix B Electrostatics in Semiconductors Appendix C Drift-diffusion Current Model; Appendix D Continuity Equations; Appendix E Basics of pn Junctions; Appendix F Hall-Shockley-Read (HSR) Statistics; Appendix G Interface Trap Capacitance; Index
Sommario/riassunto	This is the first book dedicated to the next generation of MOSFET models. Addressed to circuit designers with an in-depth treatment that appeals to device specialists, the book presents a fresh view of compact modeling, having completely abandoned the regional modeling approach. Both an overview of the basic physics theory

required to build compact MOSFET models and a unified treatment of inversion-charge and surface-potential models are provided. The needs of digital, analog and RF designers as regards the availability of simple equations for circuit designs are taken into account. Compact ex
