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Descrizione fisica	1 online resource (633 p.)
Collana	International series on advances in solid state electronics and technology
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Soggetti	Metal oxide semiconductor field-effect transistors Integrated circuits - Very large scale integration Integrated circuits - Very large scale integration - Computer simulation Electronic books.
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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 Symbols; Acronyms; 1 Overview; 2 Review of Basic Semiconductor and pn Junction Theory; 3 MOS Transistor Structure and Operation; 4 MOS Capacitor; 5 Threshold Voltage; 6 MOSFET DC Model; 7 Dynamic Model; 8 Modeling Hot-Carrier Effects; 9 Data Acquisition and Model Parameter Measurements; 10 Model Parameter Extraction Using Optimization Method; 11 SPICE Diode and MOSFET Models and Their Parameters; 12 Statistical Modeling and Worst-case Design Parameters; Appendix A. Important Properties of Silicon, Silicon Dioxide and Silicon Nitride at 300K Appendix B. Some Important Physical Constants at 300 KAppendix C. Unit Conversion Factors; Appendix D. Magnitude Prefixes; Appendix E. Methods of Calculating s from the Implicit Eq. (6.23) or (6.30); Appendix F. Charge Based MOSFET Intrinsic Capacitances; Appendix G. Linear Regression; Appendix H. Basic Statistical and Probability Theory; Appendix I. List of Widely Used Statistical Package Programs; 862-X1-missing.pdf; Subject Index
Sommario/riassunto	A reprint of the classic text, this book popularized compact modeling

of electronic and semiconductor devices and components for college and graduate-school classrooms, and manufacturing engineering, over a decade ago. The first comprehensive book on MOS transistor compact modeling, it was the most cited among similar books in the area and remains the most frequently cited today. The coverage is device-physics based and continues to be relevant to the latest advances in MOS transistor modeling. This is also the only book that discusses in detail how to measure device model parameters required