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| Nota di contenuto | Chapter 1. Invention and Evaluation of Transistors and Integrated Circuits -- Chapter 2. General overview of the basic structure and operation of a typical silicon on insulator metal-semiconductor field effect transistor SOI-MESFET -- Chapter 3. Modeling of Classical SOI-MESFET -- Chapter 4. Design and modeling of triple-material gate SOI-MESFET -- Chapter 5. Three-dimensional analytical model of the non-classical three-gate SOI-MESFET -- Chapter 6. Analytical investigation of subthreshold performance of SOI-MESFET devices -- Chapter 7. Future works on Silicon-on-insulator metal semiconductor field effect transistors (SOI-MESFETs). |
| Sommario/riassunto | This book provides detailed and accurate information on the history, structure, operation, benefits and advanced structures of silicon MESFET, along with modeling and analysis of the device. The authors explain the detailed physics that are important in modeling of SOI-MESFETs, and present the derivations of compact model expressions so that users can recognize the physical meaning of the model equations and parameters. The discussion also includes advanced structures for |

SOI-MESFET for submicron applications. Describes the evolution of MESFET in the semiconductor industry; Discusses challenges and solutions associated with downscaling; Provides comprehensive information on the structure and operation of silicon MESFETs.