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ISBN	1-119-13261-4 1-119-13262-2
Descrizione fisica	1 online resource (433 p.)
Collana	IEEE press series on microelectronic systems
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Soggetti	Flash memories (Computers) Computer storage devices
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 at the end of each chapters and index.
Nota di contenuto	Principle of NAND flash memory -- NAND flash memory devices -- Advanced operation for multilevel cell -- Scaling challenge of NAND flash memory cells -- Reliability of NAND flash memory -- Three-dimensional NAND flash cell -- Challenges of NAND flash memory.
Sommario/riassunto	Examines the history, basic structure, and processes of NAND flash memory This book discusses basic and advanced NAND flash memory technologies, including the principle of NAND flash, memory cell technologies, multi-bits cell technologies, scaling challenges of memory cell, reliability, and 3-dimensional cell as the future technology. Chapter 1 describes the background and early history of NAND flash. The basic device structures and operations are described in Chapter 2. Next, the author discusses the memory cell technologies focused on scaling in Chapter 3, and introduces the advanced operations for multi-level cells in Chapter 4. The physical limitations for scaling are examined in Chapter 5, and Chapter 6 describes the reliability of NAND flash memory. Chapter 7 examines 3-dimensional (3D) NAND flash memory cells and discusses the pros and cons in structure, process, operations, scalability, and performance. In Chapter 8, challenges of 3D NAND flash memory are discussed. Finally, in Chapter 9, the author summarizes and describes the prospect of

technologies and market for the future NAND flash memory. . Offers a comprehensive overview of NAND flash memories, with insights into NAND history, technology, challenges, evolutions, and perspectives. Describes new program disturb issues, data retention, power consumption, and possible solutions for the challenges of 3D NAND flash memory . Written by an authority in NAND flash memory technology, with over 25 years' experience NAND Flash Memory Technologies is a reference for engineers, researchers, and designers who are engaged in the development of NAND flash memory or SSD (Solid State Disk) and flash memory systems.

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