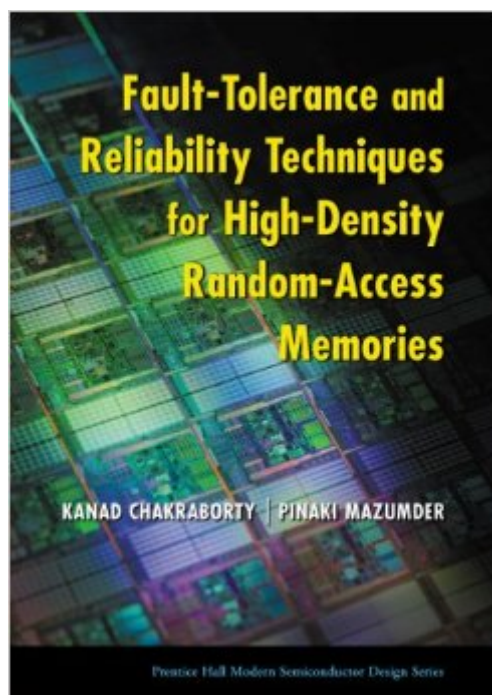# Fault-Tolerance And Reliability Techniques For High-Density Random-Access Memories (Prentice Hall Modern Semiconductor Design Series)

Synopsis

Surveys the latest research and field-proven techniques for every form of memory fault tolerance, including manufacturing, online, and field-related fault tolerance. Authors focus on practical circuit and design solutions.

Book Information

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Customer Reviews

Archeologists today are in possession of clay tablets that still bear on their surface the symbols that were written on them over 6000 years ago. As a result of improvements in fabrication technology, today's integrated circuits can store many millions of times as much data in the same volume. Further improvements are expected - within 10 years it is expected that silicon chips with a billion transistors will be manufactured. The downside, of course, is that these circuits are extremely fragile. The stored data and the circuits themselves are prone to a host of destructive forces. For example, a single alpha particle does not pose a threat to the writing on a clay tablet, but can change a RAM-cell bit. The problem affects more than just the commodity memory industry, since a larger and larger portion of many kinds of chips consists of memory arrays.Over the years a vast amount of research has been dedicated to finding ways around this problem. This book, with a bibliography of 525 research papers, is a unique and comprehensive survey of the field. The mechanisms underlying hard and soft errors are described. The techniques for coping with these mechanisms include test and repair algorithms, built-in self-repair, reconfiguration, process and

circuit techniques, and error-detecting and correcting codes. The book can be useful for designers, manufacturing engineers, test engineers and researchers.

Fault-Tolerance and Reliability Techniques for High-Density Random-Access Memories (Prentice Hall Modern Semiconductor Design Series) Fundamentals of Network Analysis and Synthesis (Prentice-Hall electrical engineering series. Solid state physical electronics series. Prentice-Hall networks series) Power Integrity for I/O Interfaces: With Signal Integrity/ Power Integrity Co-Design (Prentice Hall Modern Semiconductor Design) Prentice hall literature (common core edition) (teachers edition grade 6) (Prentice Hall and Texas Instruments Digital Signal Processing Series) Osteoporosis: How To Reverse Osteoporosis, Build Bone Density And Regain Your Life (Osteoporosis, Bone Density, Strong Bones, Healthy Bones, Osteoporosis Cure) Quantum Computation with Topological Codes: From Qubit to Topological Fault-Tolerance (SpringerBriefs in Mathematical Physics) Fault Detectability in DWDM: Towards Higher Signal Quality and System Reliability Big Data Fundamentals: Concepts, Drivers & Techniques (The Prentice Hall Service Technology Series from Thomas Erl) Analysis, Synthesis and Design of Chemical Processes (4th Edition) (Prentice Hall International Series in the Physical and Chemical Engineering Sciences) 4th (fourth) Edition by Turton, Richard, Bailie, Richard, Whiting, Wallace B., Shaei [2012] SOA Design Patterns (The Prentice Hall Service Technology Series from Thomas Erl) Compiler Design in C (Prentice-Hall software series) Database Processing: Fundamentals, Design, and Implementation (14th Edition) (Prentice-Hall Adult Education) Optical Processes in Semiconductors (Prentice-Hall electrical engineering series. Solid state physical electronics series) High Blood Pressure Cure: How To Lower Blood Pressure Naturally in 30 Days (Alternative Medicine, Natural Cures, Natural Remedies, High Blood Pressure ... Cures for High Blood Pressure, High Bl) Random House Webster's Word Menu (Random House Newer Words Faster) High Energy Density Materials (Structure and Bonding) Particle Size Analysis In Pharmaceutics And Other Industries: Theory And Practice (Prentice Hall International Series in Computer Science) Zen and the Art of the Internet: A Beginner's Guide (Prentice Hall Series in Innovative Technology) Millimeter Wave Wireless Communications (Prentice Hall Communications Engineering and Emerging Technologies Series from Ted Rappaport) Signal Processing Algorithms in Fortran and C (Prentice-Hall Signal Processing Series)