CMOS manufacturing environments are surrounded with symptoms that can indicate serious test, design, or reliability problems, which, in turn, can affect the financial as well as the engineering bottom line. This book educates readers, including non-engineers involved in CMOS manufacture, to identify and remedy these causes. This book instills the electronic knowledge that affects not just design but other important areas of manufacturing such as test, reliability, failure analysis, yield-quality issues, and problems.

Designed specifically for the many non-electronic engineers employed in the semiconductor industry who need to reliably manufacture chips at a high rate in large quantities, this is a practical guide to how CMOS electronics work, how failures occur, and how to diagnose and avoid them.

Key features:

• Builds a grasp of the basic electronics of CMOS integrated circuits and then leads the reader further to understand the mechanisms of failure.

• Unique descriptions of circuit failure mechanisms, some found previously only in research papers and others new to this publication.

• Targeted to the CMOS industry (or students headed there) and not a generic introduction to the broader field of electronics.

• Examples, exercises, and problems are provided to support the self-instruction of the reader.
JAUME SEGURA, PhD, is an Associate Professor of Electrical Engineering at the Balearic Islands University, Spain, where he has been a member of the faculty since 1993. He has been a visiting researcher at Philips Semiconductors and Intel Corporation, working on design and test issues. He is a member of the IEEE, the Chairman of the IEEE-CAS Spanish Chapter, and serves on the technical program committees of such conferences as ITC, DATE, and VTS.

CHARLES F. HAWKINS, PhD, is a Professor of Electrical Engineering at the University of New Mexico at Albuquerque, where he has been a member of the faculty since 1972. He is also a research contract engineer with the Sandia National Laboratories IC Group and has consulted with Intel Corporation, AMD Corporation, and Philips Research Labs on issues of quality, reliability, testability research, and testing. Professor Hawkins is a Member of IEEE and a member of the Electronic Device Failure Analysis Society (EDFAS) of ASM, as well as the editor of EDFAS Magazine. Professor Hawkins frequently teaches short courses and industrial seminars to leading chip manufacturers worldwide.

For additional product details, please visit https://www.wiley.com/en-us