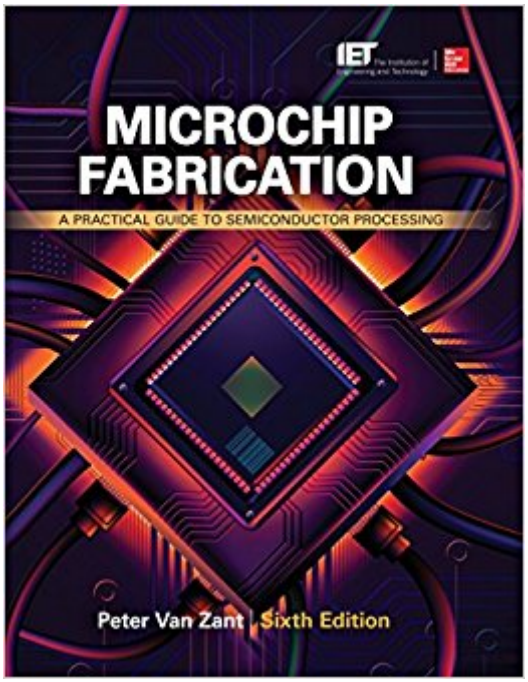
Microchip Fabrication, Sixth Edition: A Practical Guide To Semiconductor Processing



Synopsis

The most complete, current guide to semiconductor processing Fully revised to cover the latest advances in the field, Microchip Fabrication, Sixth Edition explains every stage of semiconductor processing, from raw material preparation to testing to packaging and shipping the finished device. This practical resource provides easy-to-understand information on the physics, chemistry, and electronic fundamentals underlying the sophisticated manufacturing materials and processes of modern semiconductors. State-of-the-art processes and cutting-edge technologies used in the patterning, doping, and layering steps are discussed in this new edition. Filled with detailed illustrations and real-world examples, this is a comprehensive, up-to-date introduction to the technological backbone of the high-tech industry. COVERAGE INCLUDES: The semiconductor industry Properties of semiconductor materials and chemicals Crystal growth and silicon wafer preparation Wafer fabrication and packaging Contamination control Productivity and process yields Oxidation The ten-step patterning process--surface preparation to exposure; developing to final inspection Next generation lithography Doping Layer deposition Metallization Process and device evaluation The business of wafer fabrication Devices and integrated circuit formation Integrated circuits Packaging

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Customer Reviews

This is a 6th edition but the updating is erratic. There are many sections where you will see the

discussion of methods end with 0.35 micron processes. Yes, other sections go further, but it leaves you guessing about the usefulness of the information. There are also places where there are typos and diagrams with wrong labels that must have been there for a decade. I don't feel at all like I understand how a 22nm process works, or even 65 nm. For example the thinnest spin-on coating discussed is about 10x thicker than what I see discussed in research papers and you will not find any clue how that is achieved.As an introductory text it has the advantage of giving you an all-around view of how complicated the industry is. You will find discussions of everything from coating your shoes to coating high aspect contacts, from super pure chemicals to super-small self aligned processes. At the end of the book you probably know most of the processes in use.You will, however, probably not feel confident you have learned how the most modern chips are produced. This book requires a total overhaul if it is to remain relevant, now just tinkering.

This book is OK, but there are many typos and some wrong information in the book.

Almost through chapter 6. Great overview of the wafer fab process. Reads easily.

Excellent book

Processing with Examples in MATLABÂ®, Second Edition (Electrical Engineering & Applied Signal Processing Series) Discrete-Time Signal Processing (3rd Edition) (Prentice-Hall Signal Processing Series) The Science and Engineering of Microelectronic Fabrication (The Oxford Series in Electrical and Computer Engineering) Fabrication Engineering at the Micro- and Nanoscale (The Oxford Series in Electrical and Computer Engineering) Photomask Fabrication Technology (Professional Engineering)