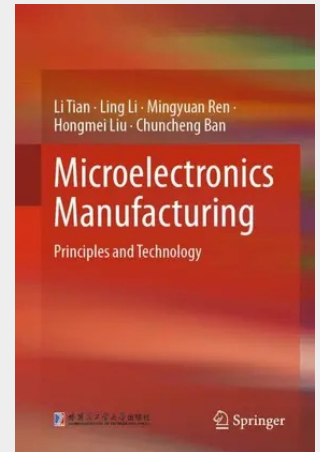


Microelectronics Manufacturing

Principles and Technology

The book presents a clear and logical framework of microelectronic fabrication processes, covering fundamental theories (e.g., semiconductor physics, doping principles) to advanced techniques (e.g., EUV lithography, 3D integration). It not only provides solid content on traditional CMOS processes but also introduces emerging device technologies such as FinFET and GAA, keeping pace with industry advancements. This makes it suitable as both a university textbook and an engineering reference. Unlike purely theoretical works, this book bridges abstract principles with practical applications through process simulation case studies, key parameter optimization (e.g., etch selectivity, thin-film uniformity), and real-world production line challenges (e.g., defect control, yield improvement). It helps readers develop a closed-loop understanding of "theory–process–device performance."

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