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	Descrizione fisica	1 online resource (485 p.)
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	Disciplina	621.3815/2 621.38152
	Soggetti	Semiconductors - Design and construction Integrated circuits - Design and construction Process control - Statistical methods
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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Introduction to semiconductor manufacturing -- Technology overview -- Process monitoring -- Statistical fundamentals -- Yield modeling -- Statistical process control -- Statistical experimental design -- Process modeling -- Advanced process control -- Process and equipment diagnosis.
	Sommario/riassunto	A practical guide to semiconductor manufacturing from process control to yield modeling and experimental design Fundamentals of Semiconductor Manufacturing and Process Control covers all issues involved in manufacturing microelectronic devices and circuits, including fabrication sequences, process control, experimental design, process modeling, yield modeling, and CIM/CAM systems. Readers are introduced to both the theory and practice of all basic manufacturing concepts. Following an overview of manufacturing and technology, the

text explores process monitoring methods, including those that focus on product wafers and those that focus on the equipment used to produce wafers. Next, the text sets forth some fundamentals of statistics and yield modeling, which set the foundation for a detailed discussion of how statistical process control is used to analyze quality and improve yields. The discussion of statistical experimental design offers readers a powerful approach for systematically varying controllable process conditions and determining their impact on output parameters that measure quality. The authors introduce process modeling concepts, including several advanced process control topics such as run-by-run, supervisory control, and process and equipment diagnosis. Critical coverage includes the following: * Combines process control and semiconductor manufacturing * Unique treatment of system and software technology and management of overall manufacturing systems * Chapters include case studies, sample problems, and suggested exercises * Instructor support includes electronic copies of the figures and an instructor's manual Graduate-level students and industrial practitioners will benefit from the detailed exami?nation of how electronic materials and supplies are converted into finished integrated circuits and electronic products in a high-volume manufacturing environment. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. An Instructor Support FTP site is also available.