Record Nr. UNISA996426332403316 **Titolo** Nanolithography: the art of fabricating nanoelectronic and nanophotonic devices and systems / / edited by Martin Feldman Pubbl/distr/stampa Philadelphia, PA:,: Woodhead Pub.,, 2014 **ISBN** 0-85709-875-6 Descrizione fisica 1 online resource (599 p.) Collana Woodhead Publishing series in electronic and optical materials, , 2050-1501;; number 42 Altri autori (Persone) FeldmanMartin Disciplina 621.381531 Soggetti Nanolithography **Nanophotonics** Nanotechnology Nanostructured materials - Design and construction Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover: Nanolithography: The art of fabricating nanoelectronic and nanophotonic devices and systems; Copyright; Contents; Contributor contact details; Woodhead Publishing Series in Electronic and Optical Materials; Preface; 1: Optical projection lithography; 1.1 Introduction; 1.2 Lithography technology and trends; 1.3 Fundamentals of optical lithography; 1.4 Image evaluation; 1.5 Projection lithography systems; 1.6 Wavelengths for optical lithography: 1.7 Lithography in the deep ultraviolet (UV); 1.8 Resolution enhancement technology; 1.9 Immersion lithography 1.10 Multiple patterning optical lithography1.11 Conclusion; 1.12 References; 2: Extreme ultraviolet (EUV) lithography; 2.1 Introduction; 2.2 EUV sources; 2.3 EUV optics; 2.4 EUV masks; 2.5 EUV resists; 2.6 EUV integration and implementation challenges: 2.7 Conclusion and future trends; 2.8 Acknowledgments; 2.9 References; 3: Electron beam lithography; 3.1 Introduction; 3.2 Using pixel parallelism to address the throughput bottleneck; 3.3 The tradeoff between resolution and throughput; 3.4 Distributed systems; 3.5 Ultimate lithographic

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Sommario/riassunto

Integrated circuits, and devices fabricated using the techniques developed for integrated circuits, have steadily gotten smaller, more complex, and more powerful. The rate of shrinking is astonishing - some components are now just a few dozen atoms wide. This book attempts to answer the questions, "What comes next?? and "How do we get there??Nanolithography outlines the present state of the art in lithographic techniques, including optical projection in both deep and extreme ultraviolet, electron and ion beams, and imprinting. Special attention is paid to related issues, such as the re