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Collana	Springer Series in Advanced Microelectronics, , 1437-0387 ; ; 55
Disciplina	530
Soggetti	Electronic circuits Electronics Microelectronics Lasers Photonics Microwaves Optical engineering Nanoscale science Nanoscience Nanostructures Electronic Circuits and Devices Electronics and Microelectronics, Instrumentation Optics, Lasers, Photonics, Optical Devices Microwaves, RF and Optical Engineering Nanoscale Science and Technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Why Optoelectronic Circuits in Nanometer CMOS? -- Optical Communications Fundamentals -- Basics of Photodiodes -- Discrete Photodiodes -- Integrated Photodiodes in Nanometer CMOS Technologies -- Transimpedance Amplifiers -- Equalizers -- Post Amplifiers -- Laser and Modulator Drivers -- Optoelectronic Circuits in Nanometer CMOS Technology.
Sommario/riassunto	This book describes the newest implementations of integrated

photodiodes fabricated in nanometer standard CMOS technologies. It also includes the required fundamentals, the state-of-the-art, and the design of high-performance laser drivers, transimpedance amplifiers, equalizers, and limiting amplifiers fabricated in nanometer CMOS technologies. This book shows the newest results for the performance of integrated optical receivers, laser drivers, modulator drivers and optical sensors in nanometer standard CMOS technologies. Nanometer CMOS technologies rapidly advanced, enabling the implementation of integrated optical receivers for high data rates of several Giga-bits per second and of high-pixel count optical imagers and sensors. In particular, low cost silicon CMOS optoelectronic integrated circuits became very attractive because they can be extensively applied to short-distance optical communications, such as local area network, chip-to-chip and board-to-board interconnects as well as to imaging and medical sensors. .

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