Design of Integrated Circuits for Optical Communications. 2nd Edition

Description:

The only book on integrated circuits for optical communications that fully covers High-Speed IOs, PLLs, CDRs, and transceiver design including optical communication.

The increasing demand for high-speed transport of data has revitalized optical communications, leading to extensive work on high-speed device and circuit design. With the proliferation of the Internet and the rise in the speed of microprocessors and memories, the transport of data continues to be the bottleneck, motivating work on faster communication channels.

Design of Integrated Circuits for Optical Communications, Second Edition deals with the design of high-speed integrated circuits for optical communication transceivers.

Building upon a detailed understanding of optical devices, the book describes the analysis and design of critical building blocks, such as transimpedance and limiting amplifiers, laser drivers, phase-locked loops, oscillators, clock and data recovery circuits, and multiplexers.

The Second Edition of this bestselling textbook has been fully updated with:

- A tutorial treatment of broadband circuits for both students and engineers
- New and unique information dealing with clock and data recovery circuits and multiplexers
- A chapter dedicated to burst-mode optical communications
- A detailed study of new circuit developments for optical transceivers
- An examination of recent implementations in CMOS technology

This text is ideal for senior graduate students and engineers involved in high-speed circuit design for optical communications, as well as the more general field of wireline communications.

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