



## Design of Integrated Circuits for Optical Communications, 2nd Edition

Behzad Razavi

E-Book	978-1-118-43945-6	September 2012	<b>\$109.99</b>
Hardcover	978-1-118-33694-6	August 2012	<b>\$137.25</b>

### 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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## ABOUT THE AUTHOR

**BEHZAD RAZAVI, PhD**, Professor of Electrical Engineering at University of California, Los Angeles, is an award-winning author, researcher, and teacher. His research deals with wireless and wireline transceivers, high-speed communication circuits, and data converters. Author of more than 100 papers and seven popular books, Prof. Razavi is a Fellow of the IEEE, has served as an IEEE Distinguished Lecturer, and was recognized as one of the top ten authors in the fifty-year history of the International Solid-State Circuits Conference. He received the IEEE Donald O. Pederson Award in 2012 for his pioneering contributions to the design of high-speed CMOS communication circuits.

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