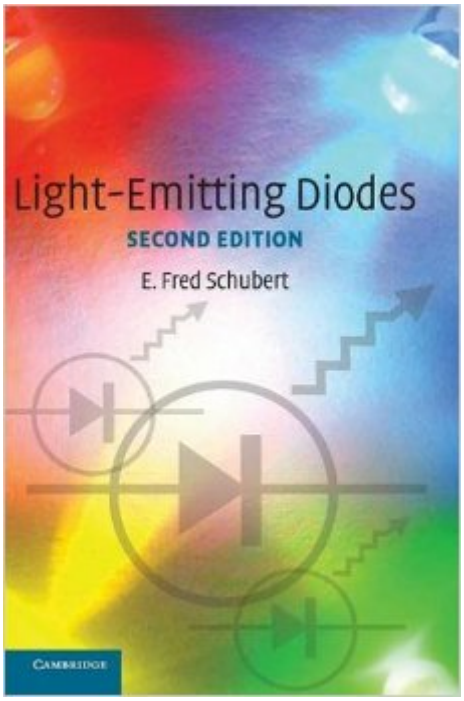
Light-Emitting Diodes



Synopsis

Revised and fully updated, the second edition of this graduate textbook offers a comprehensive explanation of the technology and physics of LEDs such as infrared, visible-spectrum, ultraviolet, and white LEDs made from III-V semiconductors. Elementary properties such as electrical and optical characteristics are reviewed, followed by the analysis of advanced device structures. With nine additional chapters, the treatment of LEDs has been vastly expanded, including new material on device packaging, reflectors, UV LEDs, III-V nitride materials, solid-state sources for illumination applications, and junction temperature. Radiative and non-radiative recombination dynamics, methods for improving light extraction, high-efficiency and high-power device designs, white-light emitters with wavelength-converting phosphor materials, optical reflectors, and spontaneous recombination in resonant-cavity structures are discussed in detail. With exercises, solutions, and illustrative examples, this textbook will be of interest to scientists and engineers working on LEDs and graduate students in electrical engineering, applied physics, and materials science.

Book Information

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Average Customer Review: 4.0 out of 5 starsÂ Â See all reviewsÂ (12 customer reviews)

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Customer Reviews

Schubert (RPI) has written an excellent book on LEDs that manages to explain and derive simple quantitative models for many phenomena of current interest. He tackles issues such as resonant cavity LEDs, reliability/surface recombination issues, current spreading theory, etc. Many monographs are a compendium of results in the field with hundreds of references to papers, which are briefly discussed, and are written by several authors. In contrast, Schubert, while giving copious

references, is the sole author, leading to a coherent presentation well suited to learning. There are plentiful and good figures and drawings, as well as many exercises and solutions integrated into the text. There are no back of chapter problems, but this is not really a text for lower level undergraduates.

This book is for master , PHD or higher. Lots of graduate school physics, math. Researcher, scientest engineering grad. school student may find it useful for studying light emmiting semiconductor material. I was a electrical engineer myself. I am tring to find practical applications of LED and LED products design technics find this book not very useful.

It is a great book for pople interested in the LED device. It is disappointing in people interested in the processing to make the device. I hope Prof. Schubert will add that dimension in his next book on this topic.

I just bought one of these through and it turned out to be the 1st (2003) edition instead of the 2nd (2006). The ordering system doesn't seem to distinguish between them so make sure you get the right one. There are substantial differences!

Great book that covers both the fundamental physics of LEDs, as well as gives the reader just the right amount of insight into their origin. The topics covered are very broad and in my mind a must own for people who are trying to enter the LED industry.

A really good book for anyone working with LEDs. Has the basic solid state physics, electrical and optical information you might need especially for the design engineer. Will not be that helpful if you are trying to design a LED luminaire. More helpful for scientific and instrumentation applications and for creating LED modeling or equations. I regret not purchasing it sooner.

Light Microscope: Introduction and QuickStart Guide to Using Compound Light Microscopes Encyclopedia of Electronic Components Volume 3: Sensors for Location, Presence, Proximity, Orientation, Oscillation, Force, Load, Human Input, Liquid ... Light, Heat, Sound, and Electricity Daily Light Devotional (Burgundy Leather) Watch for the Light: Readings for Advent and Christmas From Advent's Alleluia to Easter's Morning Light: Poetry for Worship, Study, and Devotion The Light of Faith: Lumen Fidei (Libreria Editrice Vaticana) The Light of Faith (Lumen Fidei) TAKARA TOMY Tomica Hyper Rescue HR04 Light Car (0/48) Diecast Toy Car The Skinnytaste Cookbook: Light on Calories, Big on Flavor Make: Action: Movement, Light, and Sound with Arduino and Raspberry Pi TV Lamps to Light the World Identification & Value Guide Pottkieker Light: Wie alt ist modern? (German Edition) Nordic Light: Lighter, Everyday Eating from a Scandinavian Kitchen Kitchen of Light: The New Scandinavian Cooking