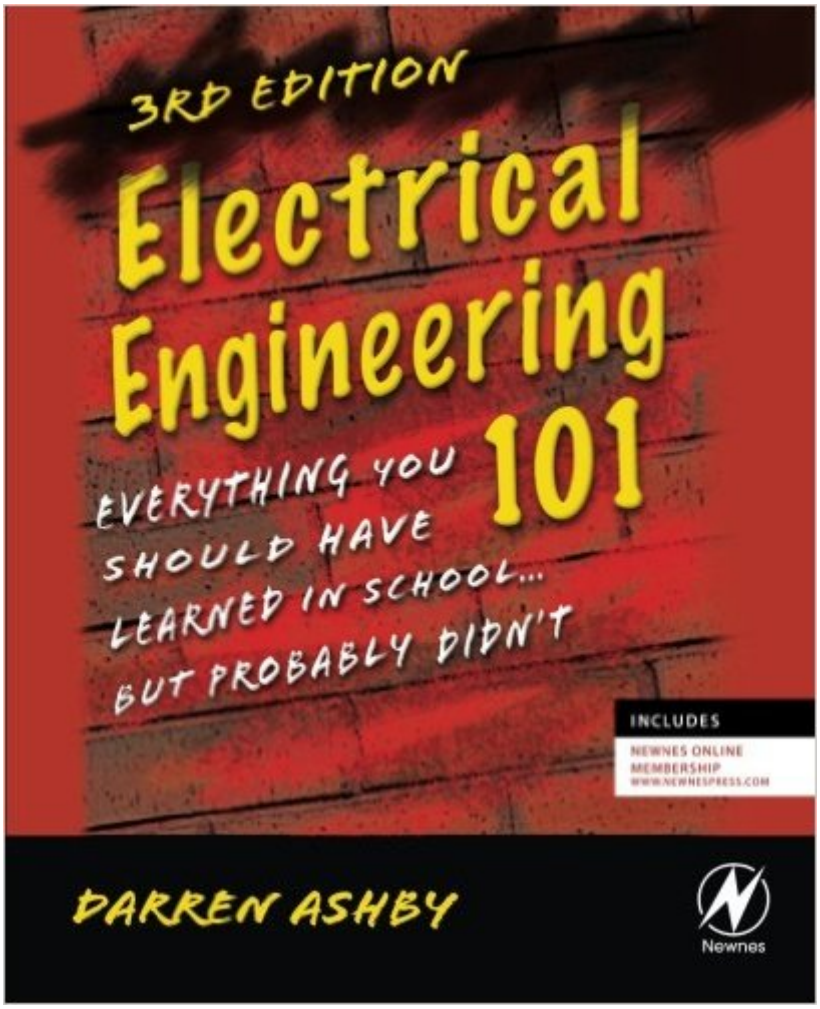
Electrical Engineering 101, Third Edition: Everything You Should Have Learned In School...but Probably Didn't



Synopsis

Electrical Engineering 101 covers the basic theory and practice of electronics, starting by answering the question "What is electricity?" It goes on to explain the fundamental principles and components, relating them constantly to real-world examples. Sections on tools and troubleshooting give engineers deeper understanding and the know-how to create and maintain their own electronic design projects. Unlike other books that simply describe electronics and provide step-by-step build instructions, EE101 delves into how and why electricity and electronics work, giving the reader the tools to take their electronics education to the next level. It is written in a down-to-earth style and explains jargon, technical terms and schematics as they arise. The author builds a genuine understanding of the fundamentals and shows how they can be applied to a range of engineering problems. This third edition includes more real-world examples and a glossary of formulae. It contains new coverage of: MicrocontrollersFPGAsClasses of componentsMemory (RAM, ROM, etc.)Surface mountHigh speed designBoard layoutAdvanced digital electronics (e.g. processors)Transistor circuits and circuit designOp-amp and logic circuitsUse of test equipmentGives readers a simple explanation of complex concepts, in terms they can understand and relate to everyday life. Updated content throughout and new material on the latest technological advances.Provides readers with an invaluable set of tools and references that they can use in their everyday work.

Book Information

Paperback: 304 pages

Publisher: Newnes; 3 edition (September 9, 2011)

Language: English

ISBN-10: 0123860016

ISBN-13: 978-0123860019

Product Dimensions: 7.5 x 0.7 x 9.2 inches

Shipping Weight: 1.4 pounds (View shipping rates and policies)

Average Customer Review: 4.1 out of 5 starsÂ Â See all reviewsÂ (91 customer reviews)

Best Sellers Rank: #39,881 in Books (See Top 100 in Books) #23 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Microelectronics #27 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Circuits #105 inÂ Books > Textbooks > Engineering

Customer Reviews

If Horowitz and Hill have got your perplexed [ISBN: 0521370957], you need to read Ashby first. Without a firm grasp of the fundamentals delved by Ashby, a reader could be very lost. This is a book you can read BEFORE an electronics course, to guide you through what could be a confusing maze. This book is not focused on design, but on a faster way to understand fundamentals in electronics by developing intuition and removing as much math jumble as possible. Included are chapters for dealing with EE management and other EE related companies.This book is also exceedingly helpful for those in a non-Engineering track electronics courses, who maybe overwhelmed by the depth and audacity of a non-Engineering text like Horowitz and Hill.Here are its key points:ProsVery easy to read, user friendly;Easy to comprehend;Key concepts summed as rules of thumb on a side bar [I use all regularly since I graduated in 1980 to this very day];Superb editing, I noticed but one typo p. 166 "Let’ss";Helps EE students focus on the essentials of key fundamental component function;Broad audience, applicable to the technician level versus EE;Touchy feely chapter works in many fields beyond EE;Helpful tidbits in the EMI chapter were superb!ConsNot enough material to get a design together, some assumption one has tried design and knows some in-outs;Need examples of a "putting it all together" using rules in sample design problems;No surface mount tips for a book written for the 21st Century EE?No catalog of manufacturers for construction?No tips on free samples?No tips on free evaluation boards?

NOTE; This review was for the second printing. The third printing has fixed about half the errors, and deleted some of the others, but there are still many there, as I just thumbed through the sample pages to check. The (-t/tau) formulas have been removed, and the 1/Rt corrected. The bad formulas for 3 resistors/inductors in parallel are still there, along with the defective Thevinized circuit, explained below.I actually can’t believe this book made it to a second printing. Many of the engineering formulas are incorrect. In Chapter 2, I counted no less than 8 incorrectly stated equations; if you aren’t familiar with electronics already, you wouldn’t notice the mistakes, but heaven help you if you tried to design anything using the bad equations. In Equation 2.4, the exponent is supposed to be (-t/tau) and is shown instead as (-tau/rc), and then the text defines RC = tau. It just doesn’t work. In equation 2.12, the author tries to explain the calculation for 3 resistors in parallel as calculating 2 resistors in parallel, and then redoing the calculation to add in the third resistor. This is wrong, too, and fairly easy to prove it’s wrong just by sticking in 3 different values and calculating them with R1 and R2 first, then adding in R3, and then doing R2 and R3 first, followed by R1. Then, in the footnotes, a variation of the formula (Rt = 1/R1 + 1/R2 + 1/R3) is shown, though the first term should be 1/Rt. This will also give you bad results. Don’t believe me?

Try plugging actual values into the supposedly equivalent equations. He duplicates all these errors in the formulas for parallel/series capacitance and inductance, even in the footnotes.

Electrical Engineering 101, Third Edition: Everything You Should Have Learned in School...but Probably Didn't An Incomplete Education: 3,684 Things You Should Have Learned but Probably Didn't 25 Things They Should Have Taught You In Medic School... But Didn't The Big Book of Words You Should Know: Over 3,000 Words Every Person Should be Able to Use (And a few that you probably shouldn't) Planet Law School II: What You Need to Know (Before You Go), But Didn't Know to Ask... and No One Else Will Tell You, Second Edition 5 Ways to Get to Work - Without a Car: Plus a 6th You Probably Didn't Think Of Build APIs You Won't Hate: Everyone and their dog wants an API, so you should probably learn how to build them The Writer Got Screwed (but didn't have to): Guide to the Legal and Business Practices of Writing for the Entertainment Industry Why Fish Fart: Gross but True Things You'll Wish You Didn't Know Third Eye: Awakening Your Third Eye Chakra: Beginner's Guide (Third Eye, Third Eye Chakra, Third Eye Awakening, Chakras) Third Eye: Third Eye Activation Secrets (Third Eye Awakening, Pineal Gland, Third Eye Chakra, Open Third Eye) Homework for Grown-ups: Everything You Learned at School and Promptly Forgot THE OBSTACLE IS YOU: The Manual You Should Have Been Given When You Were Born (How to Love Yourself Book 1) The Candida Control Cookbook: What You Should Know and What You Should Eat to Manage Yeast Infections (New Revised & Updated Edition) Everything Electrical:How To Find Electrical Shorts (Revised Edition (10/26/2015) Dr. Earl Mindell's What You Should Know About Fiber and Digestion (What You Should Know Health Management Series) 101 Things You Didn't Know About Irish History: The People, Places, Culture, and Tradition of the Emerald Isle I Could Tell You But Then You Would Have to Be Destroyed By Me: Emblems from the Pentagon's Black World The De-Textbook: The Stuff You Didn't Know About the Stuff You Thought You Knew A Cup Of Coffee With 10 Of The Top Cosmetic Dentists In The United States: Valuable insights you should know before you have cosmetic dental work done