



River Publishers Series in Electronic Materials, Circuits and Devices

## Electric and Electronic Circuit Simulation using TINA-TI®

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**ISBN:** 9788770226868

**e-ISBN:** 9788770226851

**Price:** \$ 120.00

**Distributed exclusively by Routledge**

### Description:

A circuit simulator is a computer program that permits us to see circuit behavior, i.e. circuit voltages and currents, without making the circuit. Use of a circuit simulator is a cheap, efficient, and safe way to study the behavior of circuits.

The Toolkit for Interactive Network Analysis (TINA®) is a powerful yet affordable SPICE based circuit simulation and PCB design software package for analyzing, designing, and real time testing of analog, digital, VHDL, MCU, and mixed electronic circuits and their PCB layouts. This software was created by DesignSoft. TINA-TI is a spinoff software program that was designed by Texas Instruments (TI®) in cooperation with DesignSoft which incorporates a library of pre-made TI components to for the user to utilize in their designs.

This book shows how a circuit can be analyzed in the TINA-TI® environment. Students of engineering (for instance, electrical, biomedical, mechatronics and robotics to name a few), engineers who work in industry and anyone who want to learn the art of circuit simulation with TINA-TI can benefit from this book.

**Keywords:** Buck converter, Common mode rejection ratio, Coupled inductors, DC-DC converter, Frequency response of circuit, Full wave rectifier, Half wave rectifier, Input impedance of circuit, Output impedance of circuit, Opamp circuits, Oscillator circuit, Phasor analysis, Rectifier, RLC Circuit, Simulation of electric circuits, Simulation of electronic circuits, Step response of circuit, Thevenin theorem, Three phase circuits, TINA-TI, Total harmonic distortion, Voltage gain.

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