

1. Record Nr.	UNINA9910824459303321
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Titolo	Introduction to linear circuit analysis and modelling : from DC to RF // Luis Moura, Izzat Darwazeh
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Newnes, 2005
ISBN	1-280-62908-8 9786610629084 0-08-045478-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (374 p.)
Altri autori (Persone)	Darwazehlzzat
Disciplina	621.319/2 621.3192
Soggetti	Electric circuits, Linear Electric circuit analysis Electric circuits - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front cover; Title page; Copyright page; Table of contents; Preface; Acknowledgements; First chapter; 1 Elementary electrical circuit analysis; 1.1 Introduction; 1.2 Voltage and current; 1.2.1 Voltage sources; 1.2.2 Current sources; 1.3 Electrical passive elements; 1.3.1 Resistance and conductance; 1.3.2 Capacitance; 1.3.3 Inductance; 1.4 Kirchhoff's laws; 1.4.1 Series and parallel combinations of passive elements; 1.4.2 Other types of circuit element connections; 1.4.3 Electrical network analysis - Nodal analysis; 1.4.4 Resistive voltage and current dividers; 1.4.5 Controlled sources 1.5 Thevenin's theorem 1.6 Norton's theorem; 1.7 Super-position theorem; 1.8 Bibliography; 1.9 Problems; 2 Complex numbers: An introduction; 2.1 Introduction; 2.2 Definition; 2.3 Elementary algebra; 2.3.1 Addition; 2.3.2 Subtraction; 2.3.3 Multiplication; 2.3.4 Division; 2.3.5 Complex equations; 2.3.6 Quadratic equations; 2.4 Polar representation; 2.4.1 Multiplication and division; 2.5 The exponential form; 2.5.1 Trigonometric functions and the exponential form; 2.6 Powers and roots; 2.7 Bibliography; 2.8 Problems; 3 Frequency domain electrical signal and circuit analysis; 3.1 Introduction

3.2 Sinusoidal AC electrical analysis 3.2.1 Effective electrical values; 3.2.2 I-V characteristics for passive elements; 3.2.3 Phasor analysis; 3.2.4 The generalised impedance; 3.2.5 Maximum power transfer; 3.3 Generalised frequency domain analysis; 3.3.1 The Fourier series; 3.3.2 Fourier coefficients, phasors and line spectra; 3.3.3 Electrical signal and circuit bandwidths; 3.3.4 Linear distortion; 3.3.5 Bode plots; 3.3.6 The Fourier transform; 3.3.7 Transfer function and impulse response; 3.3.8 The convolution operation; 3.4 Bibliography; 3.5 Problems

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5 Electrical two-port network analysis 5.1 Introduction; 5.2 Electrical representations; 5.2.1 Electrical impedance representation; 5.2.2 Electrical admittance representation; 5.2.3 Electrical chain representation; 5.2.4 Conversion between electrical representations; 5.2.5 Miller's theorem; 5.3 Computer-aided electrical analysis; 5.4 Bibliography; 5.5 Problems; 6 Basic electronic amplifier building blocks; 6.1 Introduction; 6.2 Modelling the amplification process; 6.3 Operational amplifiers; 6.3.1 Open-loop and feedback concepts; 6.3.2 Other examples and applications; 6.4 Active devices 6.4.1 The junction or p-n diode

Sommario/riassunto

Luis Moura and Izzat Darwazeh introduce linear circuit modelling and analysis applied to both electrical and electronic circuits, starting with DC and progressing up to RF, considering noise analysis along the way. Avoiding the tendency of current textbooks to focus either on the basic electrical circuit analysis theory (DC and low frequency AC frequency range), on RF circuit analysis theory, or on noise analysis, the authors combine these subjects into the one volume to provide a comprehensive set of the main techniques for the analysis of electric circuits in these areas.
