

1. Record Nr.	UNINA9910824911603321
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Titolo	Transient electronics : pulsed circuit technology // Paul W. Smith
Pubbl/distr/stampa	Chichester, West Sussex, [England] : , : John Wiley & Sons, , 2002 ©2002
ISBN	0-470-84672-0 0-471-49065-2 0-470-85258-5
Descrizione fisica	1 online resource (286 p.)
Disciplina	621.3
Soggetti	Transients (Electricity) Pulse circuits Electric power systems - 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	Transient Electronics ; Contents ; Preface ; 1 Mathematical Techniques for Pulse and Transient Circuit Analysis; 1.1 Introduction; 1.2 The Classical Method; 1.3 The Complex Frequency Method; 1.4 The Laplace Transform Method; 1.4.1 Application of the Laplace Transform Method; 1.4.2 Laplace Transforms of Some Basic Signals; 1.4.3 Some Properties of the Laplace Transformation; 1.4.4 Finding the Inverse Laplace Transform L(-1); 1.4.5 The Laplace Transform Circuit; 1.4.6 System or Transfer Functions; 1.4.7 Direct Determination of Rise and Delay Time Response of Networks; References 2 Transmission Line Theory and Transient Response2.1 Introduction; 2.2 Circuit Analysis of Transmission Lines; 2.3 Continuous Sinusoidal Transmission Line Excitation; 2.3.1 Low Loss and Loss-free Lines; 2.3.2 The Transmission Line as a Two-port Network; 2.3.3 Impedance Relations for Terminated Lines; 2.3.4 Line Reflections; 2.4 Transient Transmission Line Response; 2.4.1 Transient Response of the Infinite Line; 2.4.2 Transient Response of Lossy Transmission Lines; 2.4.3 Transient Response of Terminated Lines; 2.4.4 Input Impedance of Terminated Lines for Transient Signals 2.4.5 Reflections on Lines with Reactive Terminations2.4.6 Reflection

Charts or Lattice Diagrams; References; 3 Pulse-forming Lines; 3.1 Introduction; 3.2 The Single Pulse-forming Line; 3.2.1 Lattice Diagram Representation of Pulse-forming Action using a Single Transmission Line; 3.3 Pulse-forming using the Blumlein Pulse-forming Line; 3.3.1 Lattice Diagram Representation of Pulse-forming Action using a Blumlein Pulse-forming Line; 3.4 The Laplace Transform Analysis of Pulse-forming Action by Transmission Lines; 3.4.1 Pulse-forming by the Simple Pulse-forming Line; 3.4.2 Pulse-forming by the Blumlein Pulse-forming Line; 3.5 Some Other Pulse-forming Line Variants; 3.5.1 The Stacked Blumlein Pulse-forming Line Generator; 3.5.2 The Darlington Circuits; 3.5.3 Further Darlington-like Pulse-forming Lines; 3.5.4 The Self-matching Pulse-forming Line; 3.5.5 The Bi-directional or Zero Integral Pulse-forming Line; 3.5.6 A Pseudo-repetitive Pulse-forming Line; 3.5.7 Current-fed Pulse-forming Lines; References; 4 Pulse-forming Networks; 4.1 Introduction; 4.2 LC Ladder Networks; 4.2.1 The Impedance Characteristics of an LC Ladder Network; 4.2.2 General Transform Equations for a Ladder Network; 4.2.3 Input Impedance Functions of Open Circuit and Short Circuit Ladder Networks; 4.2.4 Propagation Characteristics of an LC Ladder Network; 4.3 Pulse-forming Action of an LC Ladder Network; 4.4. The Synthesis of Alternative LC Pulse-forming Networks; 4.4.1 Guillemin's Method; 4.4.2 Current-fed Networks; 4.4.3 The Synthesis of Alternative LC Current-fed Pulse-forming Networks; 4.4.4 Guillemin Type Current-fed Pulse-forming Networks; 4.5 Some Further Comments on Pulse-forming Networks; References; 5 Pulse Transformers; 5.1 Introduction; 5.2 The Ideal Transformer and the Concepts of Referral and Reluctance

Sommario/riassunto

Passive Pulse Generators are circuits used to generate very high power electrical pulses. Such pulses find application in a wide range of disciplines, including plasma generation, gas laser physics and radar.* Includes two introductory chapters on techniques used to analyse passive pulse generators* Includes worked examplesA valuable reference resource for specialist undergraduates, post graduate students and researchers active in the field of pulsed power and areas where pulsed power is applied, including physicists, engineers and those with an interest in waste and materials processing.
