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Properties of Symmetric Two-Port Networks

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3.4.1 Uniplanar T-Junctions3.4.2 Transitions; 3.4.3 Wideband Uniplanar Baluns; 3.4.4 Uniplanar Ring Hybrids; Exercises; References; 4 Asymmetric Ring Hybrids; 4.1 Introduction; 4.2 Derivation of Design Equations of Asymmetric Ring Hybrids; 4.3 Small Asymmetric Ring Hybrids; 4.4 Wideband or Small Asymmetric Ring Hybrids; 4.4.1 Microstrip Asymmetric Ring Hybrids; 4.4.2 Uniplanar Asymmetric Ring Hybrids; 4.5 Miniaturized Ring Hybrids Terminated in Arbitrary Impedances; 4.5.1 Asymmetric Lumped-Element Ring Hybrids; Exercises; References; 5 Asymmetric Branch-Line Hybrids; 5.1 Introduction
5.2 Origin of Branch-Line Hybrids5.3 Multisection Branch-Line Couplers; 5.4 Branch-Line Hybrids for Impedance Transforming; 5.5 Asymmetric Four-Port Hybrids; 5.5.1 Analyses of Asymmetric Four-Port Hybrids; 5.5.2 Conventional-Direction Asymmetric Branch-Line Hybrids; 5.5.3 Anti-Conventional-Direction Asymmetric Branch-Line Hybrids; Exercises; References; 6 Conventional Three-Port Power Dividers; 6.1 Introduction; 6.2 Three-Port 3-dB Power Dividers; 6.3 Three-Port Power Dividers with Arbitrary Power Divisions; 6.4 Symmetric Analyses of Asymmetric Three-Port Power Dividers
6.5 Three-Port 3-dB Power Dividers Terminated in Complex Frequency-Dependent Impedances

Sommario/riassunto

This book examines the new and important technology of asymmetric passive components for miniaturized microwave passive circuits. The asymmetric design methods and ideas set forth by the author are groundbreaking and have not been treated in previous works. Readers discover how these design methods reduce the circuit size of microwave integrated circuits and are also critical to reducing the cost of equipment such as cellular phones, radars, antennas, automobiles, and robots.An introductory chapter on the history of asymmetric passive components, which began with asymmetric ring hybrid