

Features a completely rewritten section on wide bandgap transistors and 100 illustrations

RF and Microwave Passive and Active Technologies

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Details a Wide Range of Component Technologies Used in Modern RF and Microwave Systems

In the high frequency world, the passive technologies required to realize RF and microwave functionality present distinctive challenges. SAW filters, dielectric resonators, MEMS, and waveguide do not have counterparts in the low frequency or digital environment. Even when conventional lumped components can be used in high frequency applications, their behavior does not resemble that observed at lower frequencies. **RF and Microwave Passive and Active Technologies** provides detailed information about a wide range of component technologies used in modern RF and microwave systems.

Updated chapters include new material on such technologies as MEMS, device packaging, surface acoustic wave (SAW) filters, bipolar junction and heterojunction transistors, and high mobility electron transistors (HMETs). The book also features a completely rewritten section on wide bandgap transistors.

FEATURES

- Examines the challenges of integrated circuits for microwave and RF applications (MMCs and RFICs) present for design, layout, characterization, and test
- Covers device technologies such as transit time devices, HEMTs and certain vacuum tubes used almost exclusively for high frequency applications
- Explores the potential of Widebandgap Nitride transistors and their properties characteristic to high frequency applications
- Discusses the behavior of materials such as metals, dielectrics, ferroelectrics, and semiconductors in terms of the more complex models required when used as part of a microwave system
- Includes discussions of microwave packaging and antenna considerations

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