Abstracts

Introductory Remarks (Jul. 1971 [T-MTT])

J.B. Horton. "Introductory Remarks (Jul. 1971 [T-MTT])." 1971 Transactions on Microwave Theory and Techniques 19.7 (Jul. 1971 [T-MTT] (Special Issue on Microwave Integrated Circuits)): 569-569.

The technology of microwave integrated circuits has continued to be one of the major forefronts in microwave technology in recent years. Since the inception of microwave integrated circuits in 1964, work on many development programs has provided new devices and techniques that have resulted in a constantly changing technology. Early trends showed that the monolithic fabrication technique, fabricating devices and circuits on a single semiconductor substrate, has an advantage in economy if large quantities of circuits are produced. In the applications that followed, however, these large quantities did not materialize in microwave work and most workers have turned to hybrid techniques using low-loss nonsemiconducting sub-strates on which passive elements could be fabricated, with active devices being attached after fabrication of the circuit was completed. Recent developments in lumped element technology have resulted in even further trends toward hybrid fabrication techniques that involve the use of the substrate as a circuit carrier with all elements attached or as a carrier for a particular device. factors. Two invited review oaDers summarize the most recent developments in ferromagnetic parts and lumped elements for microwave integrated circuits. These papers are augmented by a theoretical treatment of modes in ferrite substrate. Several papers on systems are presented next. These papers illustrate the large variety of practical applications in which hybrid microwave integrated circuits have been employed. Two papers on mixers provide additional techniques by which mixer performance was enhanced. The final paper shows a special application of microwave integrated circuit technology to filter design. Unique applications and techniques are shown in the contributions to the correspondence section. Included are a trilmming technique applicable to monolithic and hybrid integrated circuits, two applications for switches, a slot line application, two circulator designs, a technique for measuring the substrate dielectric constant, and a technique for determining package resonances.

❑ Return to main document.