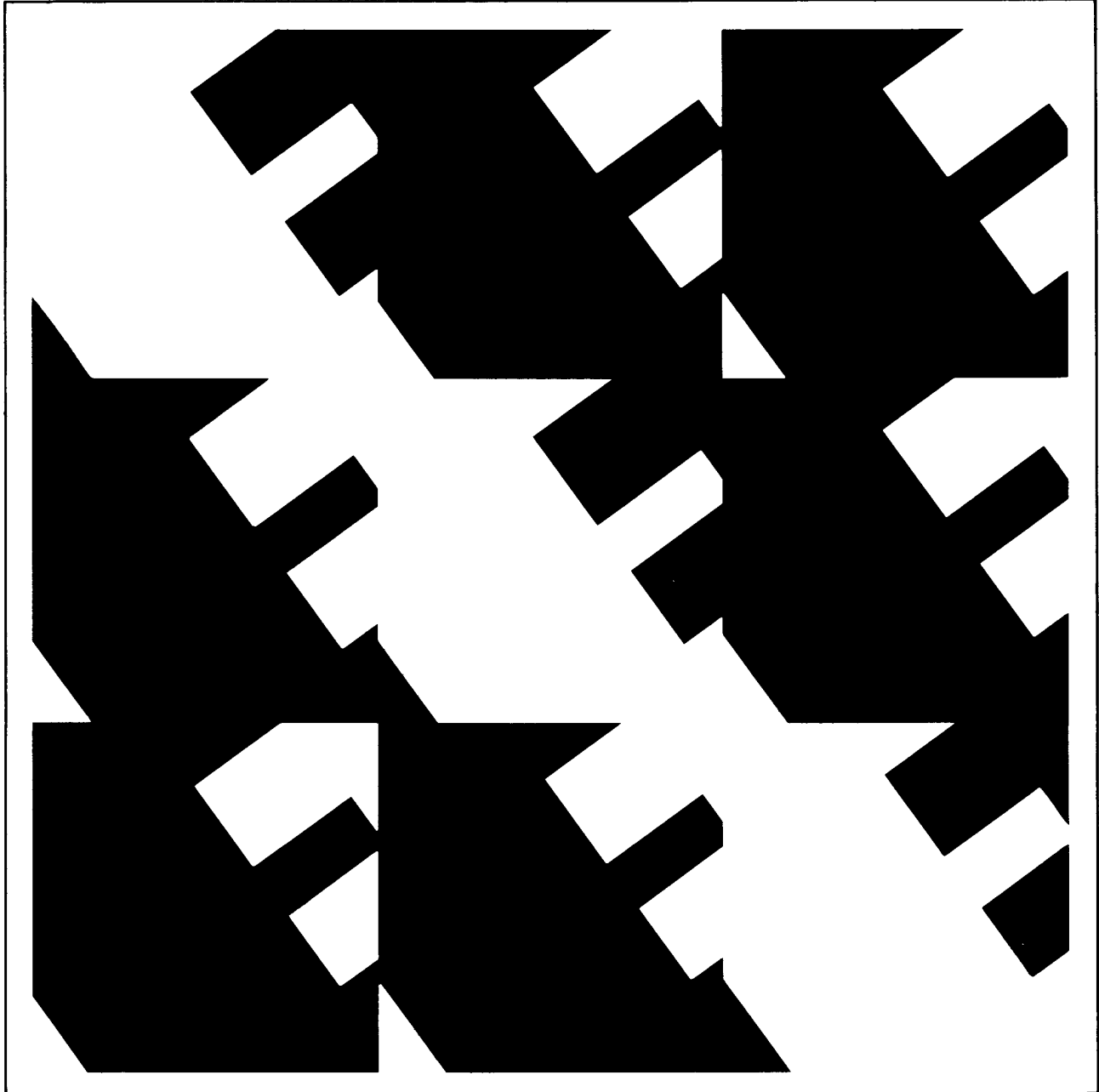


IEEE Standard Definitions of Planar Transmission Lines



ANSI/IEEE Std 1004-1987



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**IEEE Standard Definitions of
Planar Transmission Lines**

Sponsor

**Standard Coordination Committee on
Planar Transmission Lines of the
IEEE Microwave Theory and Techniques Society**

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American National Standards Institute

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Foreword

(This Foreword is not a part of ANSI/IEEE Std 1004-1987, IEEE Standard Definitions of Planar Transmission Lines.)

The IEEE has undertaken the development of standards for definitions pertaining to the transmission of microwave energy along guided lines. Several standards have been approved and published covering waveguides and components, active and passive. They are as follows:

ANSI/IEEE Std 146-1980, IEEE Standard Definitions of Fundamental Waveguide Terms

ANSI/IEEE Std 147-1979, IEEE Standard Definitions of Terms for Waveguide Components

IEEE Std 148-1959 (R1971), IEEE Standard for Measurements of Waveguides and Components

ANSI/IEEE Std 457-1982, IEEE Standard Definitions of Terms for Nonlinear, Active, and Nonreciprocal Waveguide Components

IEC Publication 50 (726), International Electrotechnical Vocabulary (ch 726, *Transmission Lines and Waveguides*)

Within the last few years, it was recognized that a similar standard was needed for planar transmission lines, which are an important transmission medium in hybrid and monolithic circuits. In June 1983, the P1004 Committee was convened for the first time to develop this standard of definitions for planar transmission lines.

The purpose of this standard is to provide a uniform basis of understanding, communication, and definition to benefit those engaged in the use and design of planar transmission lines.

The standard provides definitions of the planar transmission line configurations and also their physical and electrical characteristics. It excludes definitions for circuit elements, components, materials, and fabrication techniques. Some of these topics may well be the subject of future standards. This standard also excludes the definitions of general terms, which can be found in ANSI/IEEE Std 100-1984.

Although some of the definitions presented in this standard differ from those in IEC Publication 50 (726), the committee has deemed it fitting to retain them since they are intended to clarify these terms as related specifically to planar transmission lines rather than the broad coverage provided by IEC Publication 50 (726).

At the time this standard was approved the members of the Standards Coordinating Committee were as follows:

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