

Abstract

Method for determining the dielectric constant and the loss factor of the individual insulant levels of multilayer printed-circuit boards.

A method for determining the dielectric constant and/or the loss factor of insulator layers of printed-circuit boards by using test structures fitted onto or into the printed-circuit board at measuring frequencies in the MHz to GHz range, at least one test resonator (R) being fitted as the test structure into or onto the printed-circuit board (1), this resonator being designed as a planar microwave line with predetermined dimensions and predetermined position of at least one measuring point (5), in that, for each test resonator (R), its resonant frequency (f_R) is determined in a frequency band in which this resonant frequency is to be expected, and in that the impedance (Z_R) at the measuring point is then determined at this resonant frequency, and lastly the dielectric constant and/or the loss factor are determined by computer from the predetermined dimensions of each test resonator (R) and from the determined values of the resonant frequency and of the real part of the impedance by using the line equations.

Figs. 1 + 3

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