Abstracts

Rectangular and Circular Microstrip Disk Capacitors and Resonators

I. Wolff and N. Knoppik. "Rectangular and Circular Microstrip Disk Capacitors and Resonators." 1974 Transactions on Microwave Theory and Techniques 22.10 (Oct. 1974 [T-MTT]): 857-864.

A simple method is described to calculate the capacitances of rectangular and circular microstrip disk capacitors. From the edge capacitances of the capacitors the influence of the fringing field on the resonance frequencies of microstrip disk resonators is calculated. A theory to compute the resonance frequencies of microstrip resonators with high accuracy is presented. The resonance frequencies are calculated from a resonator model employing an effective width and length or radius, respectively, filled with a medium of a "dynamic dielectric constant." Theoretical and experimental results are compared and found to be in agreement within 1 percent.

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