Abstracts

The Determination of an Excess Capacitance (Short Papers)

H.J. Riblet. "The Determination of an Excess Capacitance (Short Papers)." 1974 Transactions on Microwave Theory and Techniques 22.4 (Apr. 1974 [T-MTT]): 467-467.

In the evaluation of "fringing capacitances" one is required to map the specified geometry in the z plane onto the upper half t plane and then to determine the limiting value of the capacitance between the two segments of the real axis--corresponding to the two conductors in the z plane--when one or both of the gaps between them approaches zero. The usual procedure of mapping the upper half t plane onto an infinite parallel plate configuration, which is often more involved than the first mapping, can be eliminated if one recognizes that the capacitance obtained by mapping the upper half t plane onto a rectangle by means of a well-known elliptic function exceeds, in the limit, the correct value by (log 2)/pi, for each gap involved.

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