Abstracts

An Expansion of the Terakado Solution with an Application (Short Papers)

H.J. Riblet. "An Expansion of the Terakado Solution with an Application (Short Papers)." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 2036-2039.

The capacitance of a concentric, symmetrical, rectangular coaxial line in which the outer conductor differs from the inner conductor by a factor of two is expanded to the eleventh power in exp [-pi w/b]. Here w is the width of the inner conductor and b is the height of the enter conductor. Approximate values obtained from this expansion agree with exact values within 0.06 percent for w/b >.2. This expansion permits the determination of the limiting value, as w/b -->/spl infin/, of the error in an approximation for the characteristic impedance of those rectangular coaxial lines in which the thickness of the inner conduct is half the height of the outer conductor. It is then shown how this information can be used to improve the accuracy with which the characteristic impedance of rectangular coaxial lines may be approximated in the general case.

❑ Return to main document.