Abstracts

A Broad-Band Microwave Superconducting Thin-Film Transformer

D.P. McGinnis and J.B. Beyer. "A Broad-Band Microwave Superconducting Thin-Film Transformer." 1988 Transactions on Microwave Theory and Techniques 36.11 (Nov. 1988 [T-MTT]): 1521-1525.

The design, construction, and testing of a broad-band superconducting transformer based on a Dolph-Chebyshev distribution is described. The transformer is completely compatible with thin-film circuit topologies and allows access to 50 Omega coaxial launchers. The transformer is a taper that utilizes only one side of the substrate and features a coplanar waveguide to microstrip transition without the use of via holes. The taper provides a characteristic impedance transformation from 50 Omega to 2 Omega over a frequency range from 5 to 15 GHz. The taper provides a much larger bandwidth than a linear taper with the same length and impedance transformation.

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