Abstracts

Ultrabroad-band vertical transition for multilayer integrated circuits

L. Zhu and K. Wu. "Ultrabroad-band vertical transition for multilayer integrated circuits." 1999 Microwave and Guided Wave Letters 9.11 (Nov. 1999 [MGWL]): 453-455.

A vertical transition using wide-aperture coupling is proposed for ultrabroad-band design of multilayer integrated circuits. With an electrically wide aperture formed on the common ground plane of two-layered microstrip line structures, a significant enhancement of capacitively series coupling is observed at low frequency. This simple technique realizes a very flat frequency response of transmission over a very broad bandwidth. A two-layered transition is accurately characterized by applying a so-called "short-open calibration" (SOC) scheme to calibrate numerical results obtained from a full-wave method of moments (MoM). The transition shows several attractive features such as ultrabroad bandwidth, low radiation loss, and deep up-band rejection. Predictions are verified by measurements over a wide frequency range.

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