Abstracts

An hermetic coplanar waveguide-to-HDI microstrip microwave feedthrough

E. Holzman, R. Teti, B. Dufour and S. Miller. "An hermetic coplanar waveguide-to-HDI microstrip microwave feedthrough." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 103-106.

We describe the design, construction and performance of a novel hermetic, multi-layer ceramic feedthrough for microwave modules. In particular, the feedthrough takes a coplanar waveguide input and provides a three-via output compatible with a microstrip module utilizing High Density Interconnect (HDI) microstrip or coplanar transmission lines. The same feedthrough also carries DC and logic signals. We designed the feedthrough using a commercial finite element analysis tool. The feedthrough was fabricated from multiple layers of ceramic using the HTCC process. Measurements of two feedthroughs in a fixture show wide band performance: less than 1 dB of insertion loss (including 0.5 dB from the fixture) from 2 to 3.6 GHz, and less than 2 dB insertion loss up to 5 GHz.

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