Multichip-on-Flex Plastic Encapsulated MHDI - Low Cost Substrateless Manufacturing for Microwave and Millimeterwave Modules

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P.D. Cooper, P.A. Piacente and R.J. Street. "Multichip-on-Flex Plastic Encapsulated MHDI - Low Cost Substrateless Manufacturing for Microwave and Millimeterwave Modules." 1996 MTT-S International Microwave Symposium Digest 96.1 (1996 Vol. I [MWSYM]): 219-222.

This paper describes Chip-on-Flex (COF) technology developed by Lockheed Martin/GE as a low cost derivative of the LM/GE Microwave High Density Interconnect (MHDI) technology. Cost take-out is being achieved by directly mounting MMIC chips onto a pre-fabricated polyimide flex circuit eliminating the need to procure expensive ceramic or metal substrates. Structural rigidity is provided by molded plastic to encapsulate the back of the chips. A C-Band T/R module is reported as the proof-of-concept demonstration vehicle, with up to 3.5 watts RF output having been measured over 5 to 6 GHz.

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