Abstracts

Successful Automated Alloy Attachment of GaAs MMIC's (1987 [MCS])

J.S. Pavio. "Successful Automated Alloy Attachment of GaAs MMIC's (1987 [MCS])." 1987 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 87.1 (1987 [MCS]): 127-129.

Automated alloy attachment of GaAs MMIC’s is presented utilizing a reflow furnace for attachment of multiple devices at one time rather than manual scrub of each monolithic separately. Reflow characteristics of a variety of solders were analyzed as well as behavior of those solders during long term temperature bake and during 1000 cycles of thermal cycling. RF and thermal impedance data was measured through 600 thermal cycles in order to verify long term electrical performance. Finally, the study addressed fractures in GaAs due to thermal expansion differences between the alloy and the GaAs MMIC itself. The main objective for the monolithic attachment study was to identify alloy materials and to develop processes which provide the following characteristics.

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