# Abstracts

## Investigation of MMIC Flip Chips with Sealants for Improved Reliability without Hermeticity

*R. Sturdivant, C. Quan and J. Wooldridge. "Investigation of MMIC Flip Chips with Sealants for Improved Reliability without Hermeticity." 1996 MTT-S International Microwave Symposium Digest 96.1 (1996 Vol. I [MWSYM]): 239-242.*

As a result of the advantages they offer, MMIC flip chips are being developed for airborne radar applications. Some of the benefits of this technology are lower wafer processing cost when Coplanar Waveguide (CPW) is used as the transmission line, surface mount compatibility, repeatable low inductance interconnect, self alignment due to solder surface tension, very high reliability, and robust 25 mil thick chips. These benefits result in lower manufacturing cost at the chip and module level, higher quality, and increased reliability. A series of recent experiments indicate that this technology may also allow for the use of sealants which provide chip protection at a fraction of the cost of welding or seam sealing at the module level. We have investigated the use of flip chips with sealants and show measured results for GaAs MMIC flip chips operating in the 5-15 Ghz range which use sealants for environmental protection.

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