Abstracts

Hydrogen Degradation of GaAs MMICs and Hydrogen Evolution in the Hermetic Package

Y. Saito, R. Griese, J. Kessler, R. Kono and J. Fang. "Hydrogen Degradation of GaAs MMICs and Hydrogen Evolution in the Hermetic Package." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 119-122.

An investigation of hydrogen degradation of GaAs MMICS (MESFET, PHEMT and HBT) was conducted to determine the threshold hydrogen concentration for spacecraft application. The maximum hydrogen in the hermetic package is found to be 0.6 torr (based on 10 year mission at ambient temperature of 125°C). Hydrogen evolution in hermetic package is also studied to determine the source of hydrogen and to minimize its level in the package. Both studies demonstrate the high reliability of hermetic A40 (Al/Si) and Kovar (Fe/Ni/Co) packages for spacecraft applications.

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