Abstracts

Thermally Enhanced Plastic Packages Using Diamond for Microwave Applications

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The superior material properties of CVD diamond combined with the economics of plastic provide an improved thermal management solution for microwave packages. The thermomechanical issues of attaching Gallium Arsenide devices to diamond have been investigated. Results indicate that a 43% decrease in maximum junction temperature and a 106 increase in mean time between failure has been achieved. In addition, an insertion loss of <1.5 dB and a VSWR of 1.5:1 was achieved for a 1 inch long 50 Omega coplanar transmission line up to 20 GHz.

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