Abstracts

Broadband thermoelectric microwave power sensors using GaAs foundry process

A. Dehe, K. Fricke-Neuderth and V. Krozer. "Broadband thermoelectric microwave power sensors using GaAs foundry process." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1829-1832 vol.3.

The paper presents the first demonstration of an integrated MMIC compatible thermoelectric microwave power sensor for frequencies between 1 to 20 GHz using a standard GaAs foundry process. Two different types of sensors are described: an insertion sensor for the measurement of transmitted power through a coplanar waveguide and a termination sensor which measures the power dissipated in a 50 /spl Omega/ load. The transmission sensor has a very low insertion loss of less than 0.3 dB and VSWR lower than 1.2. Due to their low time constant of approximately 1 /spl mu/s, these sensors are well suited for pulsed applications. The sensor exhibits an inherent linearity for large power levels and does not require any bias.

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