Abstracts

Micromachined thermocouple microwave detector by commercial CMOS fabrication

V. Milanovic, M. Gaitan and M.E. Zaghloul. "Micromachined thermocouple microwave detector by commercial CMOS fabrication." 1998 Transactions on Microwave Theory and Techniques 46.5 (May 1998, Part I [T-MTT]): 550-553.

This paper reports on the design and testing of a thermocouple microwave detector fabricated through a commercial CMOS foundry with an additional maskless etching procedure. The detector measures true r.m.s. power of signals in the frequency range from 50 MHz to 20 GHz, and input power range from -30 to +10 dBm, the device has linearity better than /spl plusmn/0.4% for input power versus output voltage over the 40 dB dynamic range. Measurements of the return loss, obtained using an automatic network analyzer, show acceptable input return loss of less than -20 dB over the entire frequency range. The sensitivity of the detector was measured to be (1.007/spl plusmn/0.004) mV/mW.

❑ Return to main document.