Abstracts

A Dielectric Resonator Oscillator with 5 PPM Long Term Frequency Stability at 4 GHz

J.K. Plourde, D.F. Linn, I. Tatsuguchi and C.B. Swan. "A Dielectric Resonator Oscillator with 5 PPM Long Term Frequency Stability at 4 GHz." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 273-276.

High Q, temperature stable dielectric resonators are excellent stabilizing elements for microwave transistor oscillators. A 4 GHz Ba/sub 2/Ti/sub 9/O/sub 20/ resonator integrated with a Si bipolar transistor in a compact oven has a frequency stability of 5 ppm/yr., 4° to 60°C (40 to 140°F). It is significantly simpler than alternative generators and has 10 to 20 dB lower FM noise. An 18 GHz generator is also described which uses a 4.5 GHz oscillator and a varactor quadrupler.

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