Abstracts

A Coplanar Transmission Line High-T/sub c/ Superconductive Oscillator at 6.5 GHz on a Single Substrate

R. Klieber, R. Ramisch, A.A. Valenzuela, R. Weigel and P. Russer. "A Coplanar Transmission Line High-T/sub c/ Superconductive Oscillator at 6.5 GHz on a Single Substrate." 1992 Microwave and Guided Wave Letters 2.1 (Jan. 1992 [MGWL]): 22-24.

The design and construction of a planar, low-noise cryogenic oscillator operating at 6.5 GHz are presented. The oscillator has been built as a hybrid superconductive microwave integrated circuit (SMIC) on a single 10x10 mm LaAlO/sub 3/ substrate. Single-sided, coplanar line structures are used throughout the circuit with YBa/sub 2/Cu/sub 3/O/sub 7-delta/ as conductor material. The oscillator was constructed around a GaAs-MESFET as the active device. The complete oscillator is cooled by immersion into liquid nitrogen. An output power of 4.9 dBm was obtained. Single-sided noise power at 10 kHz offset from carrier was -90 dBc/Hz.

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