

Abstracts

High Q Microwave Acoustic Resonators and Filters

K.M. Lakin, G.R. Kline and K.T. McCarron. "High Q Microwave Acoustic Resonators and Filters." 1993 MTT-S International Microwave Symposium Digest 93.3 (1993 Vol. III [MWSYM]): 1517-1520.

This paper presents recent experimental results and modeling obtained on high Q microwave acoustic resonators and filters for use in oscillators and other frequency control applications. Overmoded resonators have exhibited an FQ greater than $1 \times 10^{14}/\text{Hz}$ (e.g. $Q=68000$ at 1.6 GHz) with a strong inductive response suitable for one-port and two-port oscillator feedback circuits. Ladder filters fabricated with overmoded resonators have loaded Q's greater than 40000 with 76 KHz bandwidth at 1.6 GHz. Aluminum nitride films were used for transduction on Z-cut sapphire substrates.

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