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 Transactions on Microwave Theory and Techniques 41.11 (Dec. 1993 [T-MTT] (1993 Symposium Issue)): 2139-2146.

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 x 10/sup 14/ Hz (e.g., Q = 68 000 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 40 000 with 76 kHz bandwidth at 1.6 GHz. Aluminum nitride films were used for longitudinal transduction on Z-cut sapphire and lithium niobate substrates.

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