Abstracts

Micromachined Cellular Filters

R. Ruby. "Micromachined Cellular Filters." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 1149-1152.

Bulk wave Acoustic Resonators using thin piezo-electric films have the potential to become useful filters for telecommunication markets. These devices has been variously referred to as a thin film resonator (TFR) (1) or a film bulk acoustic wave resonator (FBAR) (2). Typically, the piezo-electric material is a sputter-deposited film of aluminum nitride or zinc oxide. Processing techniques such as the use of KOH or ethylene diarnine pyrocatechol (EDP) to etch silicon or the use of sacrificial materials to form "air gap" structures (J) are needed to isolate the acoustic cavity from the underlying substrate. These same techniques are also part of the micromachinists' "tools-of-the-trade" and are becoming better understood as well as becoming a part of an accepted processing infrastructure.

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