

주름진 다결정 3C-SiC 공진기의 특성

원영태^{*}, 정귀상^{*}

울산대학교 전기전자정보시스템공학부

Characteristics of corrugated polycrystalline 3C-SiC resonators

Duong The Nhan, Gwi-Sang Chung^{*}

School of Electrical Eng., University of Ulsan

Abstract : In this work, appropriate corrugated structure is suggested to increase resonant frequency of resonators. Micro beam resonators based on polycrystalline 3C-SiC films which have a two-side corrugation along the length of beams were simulated by finite element method and compared to a same-size flat rectangular. With the dimension of $36 \times 12 \times 0.5 \mu\text{m}^3$, the flat cantilever has resonant frequency of 746 kHz. Meanwhile, with this size only corrugation width of $6 \mu\text{m}$ and depth of $0.4 \mu\text{m}$, the corrugated cantilever reaches the resonant frequency at 1.252 MHz, and is 68% larger than that of flat type.

Key Words : Polycrystalline 3C-SiC, resonator, corrugated