Abstract

This paper proposes a new 2D active transducer for sensing and measuring pressure and stress measurands using micromachined technology. The sensor used here depends on the variations of a parallel plate capacitor with one of the plates is tied while the other is tied from its ends only left to change shape under pressure or stress waves directed in any direction. The capacitors are connected to the emitters of an EC multivibrator (ECMV) to change its frequency as capacitor value changes. The capacitor rods are arranged in parallel and the two sets are arranged at 90 degrees to each other to detect 2D variations in the measurands. The output of this transducer is an ECMV output which can be altered to any signal shape as required.

References

3. K.Ya, etc. A heterospin pressure sensor. J. of materials. no.30.
4. I.Pekark, etc. 2015. MEMS carbon nanotube field emission pressure sensor with simplified design. Sensors J. IEEE. vol15. no 3.

Index Terms

Computer Science
Information Sciences

Keywords

Active sensors, Active transducers, nano-structures