

Title (en)
MICROELECTROMECHANICAL SYSTEM (MENS) DEVICE

Title (de)
EINRICHTUNG FÜR EIN MIKROELEKTROMECHANISCHEN (MENS)-SYSTEMS

Title (fr)
DISPOSITIF A SYSTEME MICRO-ELECTROMECHANIQUE (MEMS)

Publication
EP 1386347 A4 20050525 (EN)

Application
EP 02724965 A 20020220

Priority

- US 0204824 W 20020220
- US 78892801 A 20010220
- US 80481701 A 20010313
- US 80541001 A 20010313
- US 141201 A 20011025

Abstract (en)
[origin: WO02067293A2] A microelectromechanical system (NEMS) analog isolator may be created in which an actuator such as an electrostatic motor drives a beam against an opposing force set, for example, by another electrostatic motor. Motion of the beam may be sensor also attached to the beam. The beam itself is electrically isolated between the locations of the actuator and the sensor. The structure may be incorporated into integrated circuits to provide on-chip isolation. A microelectricalmechanical system (MEMS) digital isolator may be created in which an actuator such as an electrostatic motor drives a beam against a predefined force set, for example, by another electrostatic motor. When the threshold of the opposing force is overcome, motion of the beam may be sensed by a sensor also attached to the beam. The beam itself is electrically isolated between the locations of the actuator and the sensor. The structure may be incorporated into integrated circuits to provide on-chip isolation. In a MEMS device employing a beam supported by transverse arms, potential bowing of the transverse arms caused by fabrication processes, temperature or local self-heating from resistive losses is accommodated by flexible terminations of the transverse arms. Alternatively, this bowing is controlled so as to provide selective biasing to the beam or mechanical advantage in the sensing of beam motion. Microelectricalmechanical systems (MEMS) manufactured on a microscopic scale using integrated circuit techniques may be used to measure a variety of parameters using electrical signals generated by the movement of small beams. Inertial noise may be cancelled by the duplication of the beam structure for sensing of the acceleration to be subtracted from a similar beam structure used to measure the parameter of interest.

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CPC (source: EP)
H01G 5/14 (2013.01); **H02N 1/002** (2013.01)

Citation (search report)

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- [X] DE 10011830 A1 20000914 - DENSO CORP [JP]
- [A] US 5959516 A 19990928 - CHANG MAU CHUNG F [US], et al
- See references of WO 02067293A2

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