ABSTRACT

LATERAL POLYSILICON BEAM PROCESS

A process has been described which makes use of polysilicon beam as the structural material instead of single crystal silicon for the fabrication of MEMS sensors/actuators. The invention describes the process for fabricating suspended polysilicon beams by using deep trenches etched into silicon substrate as a kind of a mould to form polysilicon beams. The polysilicon beams are subsequently released by isotropically etching away the silicon surrounding the polysilicon beams. This results in free standing polysilicon members, which form the MEMS structures. In addition to the general process, three approaches to making electrical contact to the beams are presented.

[FIGURE 7 IS SUGGESTED FOR PUBLICATION]