Abstract

"Method for Forming a Released Microstructure Suitable for a Microelectromechanical Device"

The present invention relates to microstructures for microelectromechanical (MEMS) devices and, in particular, relates to a method for forming a released microstructure suitable for a MEMS device. The method involves a number of steps. The first step involves providing a multi-layered wafer having a silicon device layer having an outer surface, a silicon substrate layer having an outer surface and an intermediate thermal oxide layer abuttingly disposed between the device layer and the substrate layer. The intermediate layer is adapted to resist removal by a first removal technique. The next step involves forming a microstructure in the device layer by removing portions of the device layer immediately surrounding at least part of the microstructure using a first removal technique. The next step involves releasing the microstructure by using a second removal technique to selectively remove portions of the substrate layer which lie below the microstructure, the removal process beginning at the substrate layer surface and moving towards the intermediate layer and to selectively remove portions of the intermediate layer which lie below the microstructure, thereby releasing the microstructure.

[Figure 19]

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