

Abstract

Method of forming a micro-rotating device, and a micro-rotating device produced by the method

A micro-rotating device has a rotor 200 (of diameter not more than 1.5cm), a
5 shaft 202 threaded through the rotor 200, and a shaft holder 207 for holding
the shaft. The shaft holders are formed by etching an Si substrate 501 to form
multiple shaft receiving openings 508. The rotors and shafts too are formed
from respective Si substrates 301, 401. The rotors 200 are located over the
shaft holders 207, and the shafts threaded through the rotors 200 into the
10 openings 509 and attached there by a wafer bonding process. Then the
substrate 501 is partitioned to give individual motor elements. Protrusions 206
extend from the rotor in the direction towards the stator to space the rotor
from the shaft holder.

[Fig. 6(a)]