

ABSTRACT

MICROELECTROMECHANICAL SYSTEM ACTUATOR

Provided is a microelectromechanical system (MEMS) actuator in which a cantilever piezoelectric actuator and a comb actuator are combined to perform dual shaft drive. The MEMS includes: a stationary comb fixed on a substrate; a movable comb disposed separately from the substrate; and a spring connected to the movable comb and the substrate to resiliently support the movable comb, wherein the movable comb includes a piezoelectric material layer in a laminated manner to be perpendicularly moved by a piezoelectric phenomenon and laterally moved by an electrostatic force to the stationary comb, whereby the MEMS actuator can be used in a driving apparatus of an ultra-slim optical disk drive since the movable comb is made of a piezoelectric material to simultaneously perform focusing actuation to a Z-axis as well as planar actuation.

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Figure 1