

Title (en)

PIEZOELECTRIC ACTUATOR FOR INK JET PRINTING HEADS

Title (de)

PIEZOELEKTRISCHER AKTOR FÜR TINTENSTRAHLDRUCKKÖPFE

Title (fr)

ACTIONNEUR PIÉZOÉLECTRIQUE POUR TÊTES D'IMPRESSION À JET D'ENCRE

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Abstract (en)

[origin: WO2012072114A1] A piezoelectric actuator (1) for ink jet printing heads comprises a ceramic base plate (2) and a series of oblong, parallel orientated piezoelectric ceramic actuator cuboids (3). The ceramic base plate (2) comprises on its contact face (4) contact areas (8,8') coated with a contact metallization layer (9,9'). The actuator cuboids (3) are contacted with metallization layers (5) of their base corners (6,6') to contact metallization layers (9,9') of the contact face (4) of the ceramic base plate (2). According to the invention, the ceramic base plate (2) comprises in its contact face (4) a groove (10) that extends below the piezoelectric ceramic actuator cuboids (3) and over the entire length of the piezoelectric actuator (1). The groove (10) and at least one adjacent base plate contact face (4) are coated with one of the contact metallization layers (9). Also according to the invention, each cut (13) that separates the actuator cuboids (3) reaches through these cuboids (3) and the ceramic base plate contact face (4) with their contact metallization layers (9,9'), but without reaching a bottom (14) of the groove (10). Thus, it is left in the groove (10) a non-cut contact metallization layer portion (15), which provides a common electrical connection for the piezoelectric ceramic cuboids (3) that are individually activatable over residual strip conductors (16) of the contact metallization layer (9'). Also disclosed are a corresponding production method and use of a multi-element process.

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