

Title (en)
Ink jet head and method of manufacturing ink jet head

Title (de)
Tintenstrahldruckkopf und Verfahren zur Herstellung

Title (fr)
Tête d'impression à jet d'encre et sa méthode de fabrication

Publication
EP 1005987 A3 20001102 (EN)

Application
EP 99123858 A 19991201

Priority
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Abstract (en)
[origin: EP1005987A2] An ink jet head to jet ink from a nozzle hole by applying an electric voltage to an electrode so as to deform a shape of a space forming an ink chamber, comprises two piezoelectric base plates given polarization; two non-piezoelectric base plates, wherein the ink chamber is formed by being enclosed by the two piezoelectric base plates facing each other and the two non-piezoelectric base plates facing each other; each of the two piezoelectric base plates comprising at least two lamination layers made of a piezoelectric material, wherein the two lamination layers are laminated such that the laminated surface is substantially parallel to the non-piezoelectric base plates and polarizing directions of the two lamination layers are opposite to each other; and electrodes provided on surfaces of the piezoelectric base plates and the non-piezoelectric base plates, wherein the surfaces face the ink chamber. <IMAGE>

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Citation (search report)
• [XY] EP 0565280 A2 19931013 - TOKYO ELECTRIC CO LTD [JP], et al
• [X] EP 0505188 A2 19920923 - BROTHER IND LTD [JP]
• [X] US 5512796 A 19960430 - PATON ANTHONY D [GB]
• [Y] JP H10230600 A 19980902 - BROTHER IND LTD
• [A] JP H06226973 A 19940816 - BROTHER IND LTD
• [Y] US 5543009 A 19960806 - HAYES DONALD J [US]
• [Y] US 5548313 A 19960820 - LEE KI-BANG [KR]
• [A] EP 0650835 A2 19950503 - BROTHER IND LTD [JP]
• [A] US 5666145 A 19970909 - HAYES DONALD J [US], et al

Cited by
EP1453680A4; CN112123938A; US7232202B2; US7571984B2

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