

Title (en)

A modular, fault tolerant liquid ink print head

Title (de)

Modularer, fehlertoleranter Druckkopf für flüssige Tinte

Title (fr)

Tête d'impression modulaire à tolérance de fautes pour encre liquide

Publication

EP 0771657 A2 19970507 (EN)

Application

EP 96116118 A 19961009

Priority

AU PN623795 A 19951030

Abstract (en)

A print head assembly has a plurality of monolithic print head modules wherein nozzles are etched through a silicon chip substrate, at the bottom of ink channel pits which are etched part way through the substrate. The ink channel pits are staggered to maintain the strength of the substrate. The outline of each module follows the staggered array of ink channel pits at the ends of its chip. The staggering at one end of the chip is the complement of the staggering at the opposite end of the chip, allowing two module chips to be butted together. This allows the arrangement and spacing of nozzles in joiner regions between print head modules to be identical to nozzles in other regions of the print heads. The preferred manufacturing process uses anisotropic etching on a &lang&100&rang& single crystal silicon wafer to form ink channels and nozzle barrels, and simultaneously to separate the chips from the wafer. <IMAGE>

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B41J 2/155

IPC 8 full level

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CPC (source: EP)

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Cited by

US6109745A; EP1136269A3; AU2002214852B2; EP1355788A4; US6502921B2; US6189991B1; US7654638B2; US6984019B2; US7229151B2; US8292405B2

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