Title (en)

CMOS process compatible fabrication of print heads

Title (de)

Mit dem CMOS-Verfahren kompatible Herstellung von Druckköpfen

Title (fr)

Fabrication de têtes d'impression compatible avec le procédé CMOS

Publication

EP 0763430 A3 19971105 (EN)

Application

EP 96113914 A 19960830

Priority

AU PN522295 A 19950906

Abstract (en)

[origin: EP0763430A2] A manufacturing process for printing heads (50) which integrates many nozzles into a single monolithic silicon structure. The nozzles (200) are etched through the silicon substrate, allowing two dimensional arrays of nozzles (200) for printing. The manufacturing process can be based on existing CMOS, BiCMOS and bipolar semiconductor manufacturing processes, allowing fabrication in existing semiconductor fabrication facilities. Drive transistors (201), shift registers, and fault tolerance circuitry can be fabricated on the same wafer as the nozzles (200). The manufacturing process uses anisotropic wet etching using EDP on a &lang&100&rang& wafer to form ink channels and nozzle barrels simultaneously. The size of the nozzle barrels can be controlled by the relative starting times of the etch of the nozzle barrels and the ink channels. The manufacturing process has major advantages in being highly CMOS compatible, with all processes relating to nozzle formation occurring after final level metal in CMOS process flow. <IMAGE>

IPC 1-7

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IPC 8 full level

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Citation (search report)

- [XY] EP 0498292 A2 19920812 - CANON INFORMATION SYST RES [AU], et al
- [Y] US 5278585 A 19940111 - KARZ ROBERT S [US], et al
- [Y] US 5277755 A 19940111 - O'NEILL JAMES F [US]
- [Y] US 5028514 A 19910702 - JOHANNSEN FRED [DE]
- [Y] US 5435884 A 19950725 - SIMMONS HAROLD C [US], et al

Cited by

US6499832B2; EP0913259A3; KR100552662B1; EP1149705A1; EP1174268A1; US6502915B1; EP1218190A4; EP1222074A4; US6193347B1; US6193345B1; US7891775B2; US6685846B2; US6533399B2; US6749762B2; US6259463B1; US7407257B2; US6234613B1; US7826088B2; US7973965B2; US7581831B2; US7146281B2; US6986573B2; US7023567B2; US7077497B2; US7083254B2; US7083275B2; US7093922B2; US7136183B2; US7137699B2; US7148994B2; US7222939B2; US7270397B2; US7306321B2; US7448748B2; US7465013B2; US7468816B2; US7735974B2; US7819521B2; US7847836B2; US7854491B2; US7866794B2; US7878646B2; US7884963B2

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