

Title (en)

Cmos/mems integrated ink jet print head and method of forming same

Title (de)

Cmos/mems integrierter Tintenstrahldruckkopf und Verfahren zu seiner Herstellung

Title (fr)

Tête à jet d'encre intégrée Cmos/mems et méthode de fabrication

Publication

EP 1219426 A3 20030319 (EN)

Application

EP 01130224 A 20011219

Priority

- US 79211401 A 20010222
- US 75111500 A 20001229
- US 75159300 A 20001229

Abstract (en)

[origin: EP1219426A2] An ink jet print head is formed of a silicon substrate that includes an integrated circuit formed therein for controlling operation of the print head. The silicon substrate has one or more ink channels formed therein along the longitudinal direction of the nozzle array. An insulating layer or layers overlie the silicon substrate and has a series or an array of nozzle openings or bores formed therein along the length of the substrate and each nozzle opening communicates with an ink channel. The area comprising the nozzle openings forms a generally planar surface to facilitate maintenance of the printhead. A heater element is associated with each nozzle opening or bore for asymmetrically heating ink as ink passes through the nozzle opening or bore. <IMAGE>

IPC 1-7

B41J 2/09; **B41J 2/02**; **B41J 2/14**

IPC 8 full level

B41J 2/03 (2006.01); **B41J 2/07** (2006.01); **B41J 2/105** (2006.01)

CPC (source: EP)

B41J 2/03 (2013.01); **B41J 2/105** (2013.01); **B41J 2002/032** (2013.01); **B41J 2202/13** (2013.01); **B41J 2202/16** (2013.01); **B41J 2202/22** (2013.01)

Citation (search report)

- [XA] US 6019457 A 20000201 - SILVERBROOK KIA [AU]
- [XA] EP 1060890 A2 20001220 - EASTMAN KODAK CO [US]
- [A] EP 1034932 A2 20000913 - HEWLETT PACKARD CO [US]

Cited by

EP2431181A1; CN1317736C; CN110072700A; US7735981B2; US7057138B2; US7762647B2; EP2865787A1; CN113543978A; AU2019428366B2; WO2009017607A1; WO2009042041A1; WO2005105459A1; US11267243B2; US11642884B2; US11345145B2; US11613118B2; WO2020162911A1; US11413864B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

EP 1219426 A2 20020703; **EP 1219426 A3 20030319**; **EP 1219426 B1 20060301**; DE 60117456 D1 20060427; DE 60117456 T2 20061005; JP 2002225278 A 20020814

DOCDB simple family (application)

EP 01130224 A 20011219; DE 60117456 T 20011219; JP 2001387192 A 20011220