

Title (en)
Integrated microfluidic device with sensing and control circuits

Title (de)
Integrierte Mikrofluidikvorrichtung mit Abtast- und Steuerschaltungen

Title (fr)
Dispositif à microfluide intégré avec capteur et circuits de contrôle

Publication
EP 1974815 A1 20081001 (EN)

Application
EP 07104821 A 20070323

Priority
EP 07104821 A 20070323

Abstract (en)
An integrated microfluidic device has chambers (11-MN) for handling fluids, temperature sensing elements (T8, Tc) arranged to output analog signals, signal converters (Cs, ADC) for converting the analog signals to digital read signals, electrical heating elements (R) controlled by switching circuitry (T2), the signal converters and the switching circuitry comprising thin film transistors. The use of thin film transistors can enable lower cost and easier manufacture. The temperature sensing elements can avoid using analog matched transistor circuits, to avoid difficulties with non uniform characteristics of thin film transistors. The device can have multiplexing circuitry for multiplexing the read signals from more than one of the sensing elements to reduce the number of interconnects.

IPC 8 full level
B01L 3/00 (2006.01); **B01L 7/00** (2006.01)

CPC (source: EP)
B01L 3/5027 (2013.01); **B01L 3/502707** (2013.01); **B01L 7/52** (2013.01); **B01L 2200/147** (2013.01); **B01L 2300/0819** (2013.01); **B01L 2300/0861** (2013.01); **B01L 2300/1822** (2013.01); **B01L 2300/1827** (2013.01)

Citation (search report)
• [XDY] US 6632400 B1 20031014 - BRENNEN REID A [US], et al
• [Y] US 2002150683 A1 20021017 - TROIAN SANDRA M [US], et al
• [Y] DE 10329820 B3 20050113 - UNIV DRESDEN TECH [DE]
• [Y] US 6355491 B1 20020312 - ZHOU YUXIANG [CN], et al
• [AD] US 2004087008 A1 20040506 - SCHEMBRI CAROL T [US]
• [A] EP 1304388 A2 20030423 - AFFYMETRIX INC [US]

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
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DOCDB simple family (application)
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