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(71) Applicant (*for all designated States except US*): **MI-  
CRONIT MICROFLUIDICS B.V.** [NL/NL]; Hen-  
gelosestraat 705, NL-7521 PA Enschede (NL).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **VAN'T OEVER,  
Ronny** [NL/NL]; Oldenzaalsestraat 92, NL-7511 DT  
Enschede (NL).

(74) Agent: **HYLARIDES, Paul, Jacques**; Sweelinckplein 1,  
NL-2517 GK Den Haag (NL).

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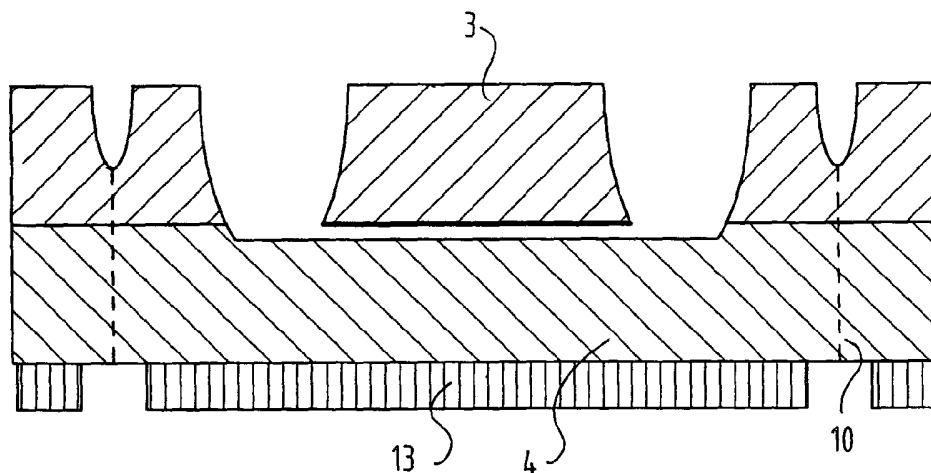
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*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: METHOD OF DIVIDING A SUBSTRATE INTO A PLURALITY OF INDIVIDUAL CHIP PARTS



(57) Abstract: The present invention relates to a method for dividing a substrate into a number of individual chip parts, comprising the steps of: forming a number of chip parts in the substrate, comprising, for each chip part, of arranging recesses in the substrate for containing fluid; arranging one or more breaking grooves in the substrate along individual chip parts; applying mechanical force to the substrate to break the substrate along the breaking grooves. The invention also relates to a substrate as well as a chip part.



WO 03/051765 A3

## INTERNATIONAL SEARCH REPORT

Int. Application No  
PCT/NL 02/00850

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B81C1/00 B41J2/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B81C B41J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EP0-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 678 387 A (SEIKO EPSON) 25 October 1995 (1995-10-25)  page 9, line 50 -page 10, line 13; figure 14	1,7,14, 18,19, 22,26, 29,30,34
X	US 5 684 324 A (CHARLES DRAPER LAB) 4 November 1997 (1997-11-04)  abstract  --- -/--	1,5,7, 13,14, 17-19, 22,26, 30,34

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 April 2003

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25. 07. 2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

GORI, P

## INTERNATIONAL SEARCH REPORT

Int. Patent Application No

PCT/NL 02/00850

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 007, no. 239 (E-206), 25 October 1983 (1983-10-25) & JP 58 130528 A (HITACHI SEISAKUSHO KK), 4 August 1983 (1983-08-04) abstract	15
X	--- PATENT ABSTRACTS OF JAPAN vol. 007, no. 200 (E-196), 3 September 1983 (1983-09-03) & JP 58 098983 A (HITACHI SEISAKUSHO KK), 13 June 1983 (1983-06-13) abstract	1,5,11, 14, 17-19, 22,34
X	--- EP 0 514 706 A (HEWLETT PACKARD CO) 25 November 1992 (1992-11-25)  column 6, line 34 -column 8, line 49 -----	1,11,14, 16,19, 22,26,34

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/NL 02/00850

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: -  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1, 5, 7 second, 11, 14, 17-19, 22-24, 26-30, 32

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.2

The subject matter of claim 33, which relates to a method, is undefined. The claim covers all methods of fabrication of the device of claims 14-32, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Claim 33 has been searched as far as it relates to the methods of claims 1-13.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1,5,7 second, 11, 14,17-19,22-24,26-30,32

A process for dividing a substrate comprising fluid channels involving breaking the substrate along breaking grooves formed simultaneously with the fluid channels. Substrate comprising fluid channels and breaking grooves. Separated chip-part.

2. Claims: 2,3,11,12,21,25

Process of separating a bonded substrate; fabricated chip-part.

3. Claims: 4,6,7 first, 15,16,20

Process for making breaking grooves; fabricated chip-part.

4. Claims: 8-10,31

Process for fabricating a chip-part comprising fluid transporting means; fabricated chip-part.

## INTERNATIONAL SEARCH REPORT

In ☐ International Application No  
PCT/NL 02/00850

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