

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
1 December 2005 (01.12.2005)

PCT

(10) International Publication Number  
**WO 2005/114709 A3**

(51) International Patent Classification<sup>7</sup>: **H01L 21/00**

Vale Road, Waban, MA 02468 (US). **YANG, Chenglong** [US/US]; 2251 McLaughlin Avenue, Apt. 4, San Jose, CA 95122 (US).

(21) International Application Number:  
PCT/US2005/016543

(74) Agent: **BILINSKI, Peter, J.**; Wall Marjama & Bilinski LLP, 101 South Salina Street, 4th Floor, Syracuse, NY 13202 (US).

(22) International Filing Date: 12 May 2005 (12.05.2005)

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:  
60/570,382 12 May 2004 (12.05.2004) US  
11/126,471 11 May 2005 (11.05.2005) US

(71) Applicant (for all designated States except US): **INFICON, INC.** [US/US]; Two Technology Place, East Syracuse, NY 13057-9714 (US).

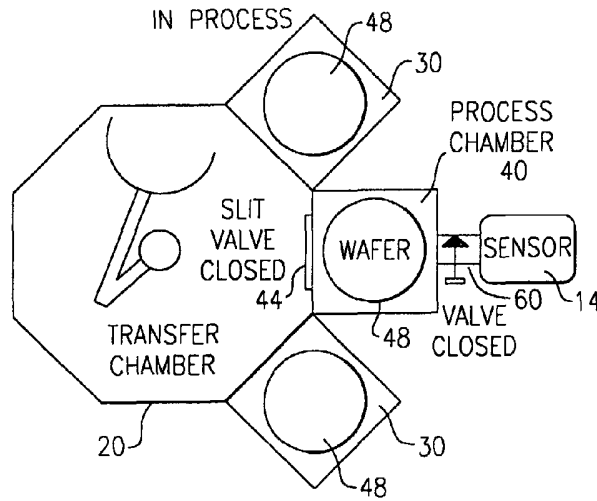
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CONNER, William, T.** [US/US]; 483 VFW Parkway, Chestnut Hill, MA 02467 (US). **GARVIN, Craig** [US/US]; 20 Paulina Street, #1, Somerville, MA 02144 (US). **LAKEMAN, Steven, J.** [US/US]; 305 Eagle Ridge Street, Newbury Park, CA 91320 (US). **TEPERMEISTER, Igor** [US/US]; 20 Oak

[Continued on next page]

(54) Title: INTER-PROCESS SENSING OF WAFER OUTCOME



(57) Abstract: A method of monitoring a microelectronic manufacturing process includes the implementation of a process monitor that is configured to operate in an inter-process mode.

WO 2005/114709 A3



**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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

**(88) Date of publication of the international search report:**

19 January 2006

INTERNATIONAL SEARCH REPORT

Intern Application No  
PCT/US2005/016543

<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b> H01L21/00</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>											
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols) H01L</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ</p>											
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category °</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) -&amp; JP 10 204642 A (NEC YAMAGUCHI LTD), 4 August 1998 (1998-08-04) abstract</td> <td>1, 11</td> </tr> <tr> <td>A</td> <td>PATENT ABSTRACTS OF JAPAN vol. 011, no. 294 (E-544), 22 September 1987 (1987-09-22) -&amp; JP 62 094930 A (MITSUBISHI ELECTRIC CORP), 1 May 1987 (1987-05-01) abstract</td> <td>1, 11</td> </tr> </tbody> </table> <p style="text-align: center;">----- -/--</p>			Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) -& JP 10 204642 A (NEC YAMAGUCHI LTD), 4 August 1998 (1998-08-04) abstract	1, 11	A	PATENT ABSTRACTS OF JAPAN vol. 011, no. 294 (E-544), 22 September 1987 (1987-09-22) -& JP 62 094930 A (MITSUBISHI ELECTRIC CORP), 1 May 1987 (1987-05-01) abstract	1, 11
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.									
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) -& JP 10 204642 A (NEC YAMAGUCHI LTD), 4 August 1998 (1998-08-04) abstract	1, 11									
A	PATENT ABSTRACTS OF JAPAN vol. 011, no. 294 (E-544), 22 September 1987 (1987-09-22) -& JP 62 094930 A (MITSUBISHI ELECTRIC CORP), 1 May 1987 (1987-05-01) abstract	1, 11									
<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.      <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>											
<p>° Special categories of cited documents :</p> <p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p> <p>*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</p> <p>*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</p> <p>*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.</p> <p>* &amp; * document member of the same patent family</p>											
<p>Date of the actual completion of the international search</p> <p style="text-align: center;">2 November 2005</p>		<p>Date of mailing of the international search report</p> <p style="text-align: center;">30/11/2005</p>									
<p>Name and mailing address of the ISA</p> <p>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</p>		<p>Authorized officer</p> <p style="text-align: center;">Oberle, T</p>									

INTERNATIONAL SEARCH REPORT

Intern I Application No  
PCT/US2005/016543

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 2003, no. 08, 6 August 2003 (2003-08-06) -&amp; JP 2003 100620 A (DAINIPPON SCREEN MFG CO LTD), 4 April 2003 (2003-04-04) abstract</p> <p style="text-align: center;">-----</p>	1,11

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern | Application No  
PCT/US2005/016543

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 10204642	A	04-08-1998	JP 3037173 B2	24-04-2000
JP 62094930	A	01-05-1987	NONE	
JP 2003100620	A	04-04-2003	NONE	