(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 March 2002 (07.03.2002)

PCT

(10) International Publication Number
WO 02/019363 A3

(51) International Patent Classification[7]: C03C 17/22, 17/34

(21) International Application Number: PCT/US01/26668

(22) International Filing Date: 27 August 2001 (27.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/649,724 28 August 2000 (28.08.2000) US

(71) Applicant: APPLIED MATERIALS, INC. [US/US]; 3050 Bowers Avenue, Santa Clara, CA 95054 (US).

(72) Inventors: LAW, Kam, S.; 461 Riviera Drive, Union City, CA 94587 (US). MAYDAN, Dan; 12000 Murietta Lane, Los Altos Hills, CA 94022 (US).

(74) Agents: PATTERSON, William, B. et al.; Thomason, Moser & Patterson, LLP, Suite 1500, 3040 Post Oak Boulevard, Houston, TX 77056 (US).

(81) Designated States *(national)*: CN, JP, KR, SG.

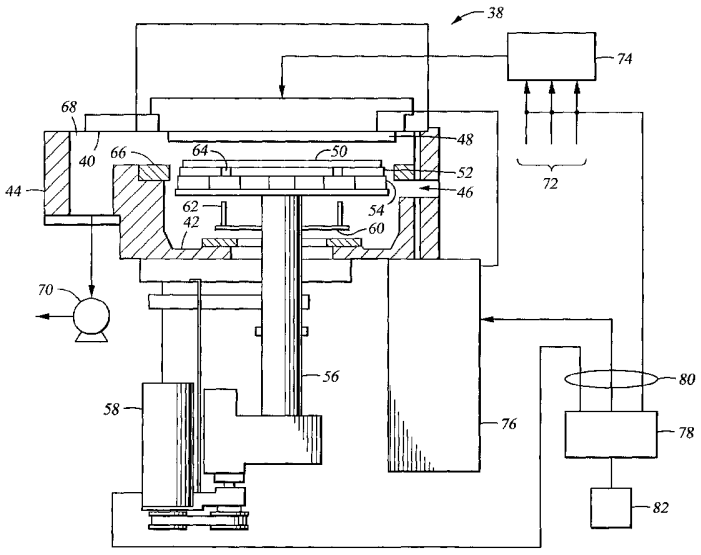
(84) Designated States *(regional)*: European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

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*

(88) Date of publication of the international search report:
28 August 2003

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.

(54) Title: PRE-POLYCOATING OF GLASS SUBSTRATES



(57) Abstract: A method and apparatus for forming a polysilicon layer on a pre-annealed glass substrate. In one aspect, the method includes loading a pre-annealed glass substrate in a deposition chamber, depositing an amorphous silicon layer on the pre-annealed glass substrate, and annealing the pre-annealed glass substrate to form a polysilicon layer thereon. The amorphous silicon layer may be deposited concurrently with the annealing step to produce the polysilicon layer on the pre-annealed glass substrate. A nitride layer and/or an oxide layer may be deposited prior to depositing the amorphous silicon layer and annealing the pre-annealed glass substrate.

WO 02/019363 A3

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 01/26668

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C03C17/22 C03C17/34

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 C03C

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)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 20524 A (GREEN MARTIN ANDREW ;PACIFIC SOLAR PTY LTD (AU); SHI ZHENGRONG (AU) 14 May 1998 (1998-05-14) the whole document ---	1-28
X	US 5 674 304 A (FUKADA TAKESHI ET AL) 7 October 1997 (1997-10-07) examples ---	1-28
X	US 5 372 860 A (FEHLNER FRANCIS P ET AL) 13 December 1994 (1994-12-13) the whole document ---	1-28
	-/--	

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
16 June 2003	25/06/2003

Name and mailing address of the ISA	Authorized officer
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	Somann, K

INTERNATIONAL SEARCH REPORT

Internal application No
PCT/US 01/26668

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. 015, no. 078 (E-1037), 22 February 1991 (1991-02-22) & JP 02 297923 A (SEIKO EPSON CORP), 10 December 1990 (1990-12-10) abstract	1-28
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 657 (E-1470), 6 December 1993 (1993-12-06) & JP 05 218367 A (SHARP CORP), 27 August 1993 (1993-08-27) abstract	1-28

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern pplication No
PCT/US 01/26668

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9820524	A	14-05-1998	AU	718641 B2	20-04-2000
			AU	4767797 A	29-05-1998
			WO	9820524 A1	14-05-1998
			CN	1236481 A	24-11-1999
			EP	0946974 A1	06-10-1999
			JP	2001503917 T	21-03-2001
US 5674304	A	07-10-1997	JP	7109573 A	25-04-1995
			US	6268631 B1	31-07-2001
			US	5929487 A	27-07-1999
			US	2002008801 A1	24-01-2002
US 5372860	A	13-12-1994	CA	2123189 A1	07-01-1995
			EP	0633604 A1	11-01-1995
			IL	110194 A	18-03-1997
			JP	7140454 A	02-06-1995
JP 02297923	A	10-12-1990	NONE		
JP 05218367	A	27-08-1993	NONE		