

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2017/030851

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. G03F7/20(2006.01) i, H05G2/00(2006.01) i

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)

Int.Cl. G03F7/20-7/24, G03F9/00-9/02, H01L21/027, H01L21/30

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

Published examined utility model applications of Japan	1922-1996
Published unexamined utility model applications of Japan	1971-2017
Registered utility model specifications of Japan	1996-2017
Published registered utility model applications of Japan	1994-2017

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	JP 2006-529057 A (KONINKL PHILIPS ELECTRONICS NV) 28 December 2006, paragraphs [0114], [0123], [0188]-[0192], fig. 18 & US 2011/0048452 A1, paragraphs [0132], [0142], [0211]-[0215], fig. 18 & WO 2004/104707 A2 & EP 1629268 A2 & KR 10-2006-0006841 A & CN 1791793 A & KR 10-1095394 B1 & TW 200510954 A	1-4, 6-7, 11, 13-14, 18, 20 5, 12, 19 8-10, 15-17

Further documents are listed in the continuation of Box C.

See patent family 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 application or patent 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
17.11.2017

Date of mailing of the international search report
19.12.2017

Name and mailing address of the ISA/
Japan Patent Office
3-4-3, Kasumigaseki, Chiyoda-ku,
Tokyo 100-8915, Japan

Authorized officer

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 2014-240949 A (ASAHI KASEI E MATERIALS CORPORATION) 25 December 2014, paragraph [0034] (Family: none)	5, 12, 19 1-4, 6-11, 13-18, 20
Y A	JP 2009-26933 A (KONICA MINOLTA HOLDINGS, INC.) 05 February 2009, paragraph [0149] (Family: none)	5, 12, 19 1-4, 6-11, 13-18, 20
A	JP 2009-16640 A (USHIO ELECTRIC INC.) 22 January 2009, paragraph [0035], fig. 6 (Family: none)	1-20
A	JP 2009-88439 A (USHIO ELECTRIC INC.) 23 April 2009, paragraphs [0029], [0030], fig. 2 (Family: none)	1-20
A	JP 2011-515650 A (CYMER, INC.) 19 May 2011, paragraph [0046], fig. 5 & WO 2009/085094 A2, specification, page 21, lines 2-24, fig. 5 & JP 2015-135334 A & US 2009/0159808 A1 & US 2011/0192985 A1 & US 2013/0070332 A1 & EP 2232210 A2 & TW 200932066 A	1-20
A	JP 2011-504294 A (CARL ZEISS SMT AG) 03 February 2011, paragraphs [0063]-[0066], fig. 3 & US 2010/0288302 A1, paragraphs [0070]-[0073], fig. 3 & US 2013/0186430 A1 & WO 2009/059614 A1 & KR 10-2010-0098515 A & TW 200922703 A & KR 10-2014-0097574 A	1-20