

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/023037

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. G01C21/36(2006.01) i, G01C21/34(2006.01) i, G09B29/00(2006.01) i, G09B29/10(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. G01C21/26-21/36, G09B29/00, G09B29/10

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 1971-2019

Registered utility model specifications of Japan 1996-2019

Published registered utility model applications of Japan 1994-2019

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.
Y A	JP 2013-108777 A (MIZUGUCHI, Masayoshi) 06 June 2013, claims, paragraphs [0001]-[0009], fig. 1, 2 (Family: none)	1-2, 4, 9-10 3, 5-8
Y A	JP 2017-96635 A (AISINAWCO., LTD.) 01 June 2017, claims, paragraphs [0019]-[0021], [0035]-[0040] (Family: none)	1-2, 4, 9-10 3, 5-8



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

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"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
06.09.2019Date of mailing of the international search report
17.09.2019Name and mailing address of the ISA/
Japan Patent Office
3-4-3, Kasumigaseki, Chiyoda-ku,
Tokyo 100-8915, Japan

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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 2012-32339 A (MEGACHIPS CORPORATION) 16 February 2012, claims, paragraphs [0037]-[0041] (Family: none)	1-2, 4, 9-10 3, 5-8
Y	JP 2008-180624 A (VICTOR CO OF JAPAN LTD.) 07 August 2008, claims, paragraphs [0006]-[0008], [0017]-[0024] (Family: none)	2, 4
A	WO 2013/168382 A1 (DENSO CORPORATION) 14 November 2013, entire text & US 2015/0134236 A1, entire text & JP 2013-253961 A & DE 112013002357 T5	1-10
A	JP 2012-122778 A (FUJITSU TEN LTD.) 28 June 2012, entire text (Family: none)	1-10
A	JP 2002-297611 A (TOSHIBA CORPORATION) 11 October 2002, entire text (Family: none)	1-10
A	JP 2005-100276 A (MAZDA MOTOR CORP.) 14 April 2005, entire text (Family: none)	1-10