

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2018/052198

A. CLASSIFICATION OF SUBJECT MATTER
 INV. H01L33/50
 ADD. H01L33/06 H01L33/60 H01L25/075

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)
 H01L

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 practicable, search terms used)
 EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2014/022779 A1 (SU KAI [US] ET AL) 23 January 2014 (2014-01-23) paragraph [0032] - paragraph [0090]; figure 4	1-6,10, 12
X	US 2012/130166 A1 (NISHIMURA YOSHIRO [JP] ET AL) 24 May 2012 (2012-05-24) the whole document	1-15
A	US 6 876 006 B1 (MATVEEV BORIS [RU] ET AL) 5 April 2005 (2005-04-05) abstract; figures 2-4	1-15
A	US 2009/153024 A1 (LIU YU-HUAN [TW] ET AL) 18 June 2009 (2009-06-18) abstract; figures	1-15
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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

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- "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
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Date of the actual completion of the international search 19 April 2018	Date of mailing of the international search report 30/04/2018
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Ott, André
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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.
A	DE 10 2015 105693 A1 (OSRAM OPTO SEMICONDUCTORS GMBH [DE]) 20 October 2016 (2016-10-20) claims; figures -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2018/052198

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