

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	12.09.2017
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Applicant's or agent's file reference 17P00230WO	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2017/023768	International filing date (day/month/year) 28.06.2017	Priority date (day/month/year) 28.06.2016
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International Patent Classification (IPC) or both national classification and IPC
H01L31/048 (2014.01) i

Applicant
KYOCERA CORPORATION

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	10-13	YES
	Claims	1-9, 14-15	NO
Inventive step (IS)	Claims		YES
	Claims	1-15	NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims		NO

2. Citations and explanations:

Document 1: WO 2004/082337 A1 (NIPPON SHEET GLASS CO., LTD.)

Document 2: US 2016/0075284 A1 (GREEN)

Document 3: Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 79010/1980 (Laid-open No. 4251/1982) (NEC CORP.)

Document 4: WO 2014/155911 A1 (SANYO ELECTRIC CO., LTD)

(1) Document 1 (fig. 4 (c)) discloses a display panel in which an EL element and the like are used, wherein the display panel has a substrate 10 ("first plate part"), a sealing plate 30 ("second plate part"), welding layers 40 ("first/second metal parts") comprising solder, and an outer frame 70 ("first cover part"), and the welding layers 40 are bonded using ultrasonic waves and the like (paragraph [0051]).

Consequently, the invention as in claims 1-5, 8, and 14-15 lacks novelty and does not involve an inventive step in the light of document 1.

In addition, in view of the feature of document 1, in

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which the solder 40 is welded to the outer frame 70, the invention as in claims 6-7 cannot be distinguished from the invention described in document 1, and thus lacks novelty and does not involve an inventive step.

(2) Document 2 (fig. 3D) discloses a photoelectric element which has substrates 102, 103 ("first/second plate parts") having an offset region 199, a photoelectric medium 110 ("object to be sealed"), conductive solder 160 ("first/second metal parts") and a conductive foil 161 ("first cover part").

Consequently, the invention as in claims 1-5 and 8 lacks novelty and does not involve an inventive step in the light of document 2.

In addition, the invention as in claims 6-7 also lacks novelty and does not involve an inventive step in the light of document 2, for a similar reason to that pointed out in section (1).

Furthermore, in view of the fact that, with respect to claims 9-13, solar cell elements are well known as photoelectric elements, in particular, the feature of providing a through-hole and the like to a plate part and the feature of providing a projecting portion and the like thereto are as disclosed respectively in document 4 (fig. 3) and document 2 (fig. 3D), and with respect to claims 14-15, the feature of using ultrasonic waves when welding solder is as described in document 1 (paragraph [0051]), and the like, the invention as in claims 9-15 does not involve an inventive step in the light of document 2.

(3) Document 3 (fig. 2) discloses a solar cell module that has glass plates 2 ("first/second plate parts"), a solar cell element 1 ("object to be sealed"), a metal frame 4 ("first/second metal parts") and a cap 10 ("first cover part").

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Box No. V

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Consequently, the invention as in claims 1-2 and 8-9 lacks novelty and does not involve an inventive step in the light of document 3.