

EP 2 846 409 A3

(51) Int Cl.:
H01R 12/91 (2011.01) **H01R 13/24** (2006.01)
H01R 13/631 (2006.01) **H01R 12/71** (2011.01)
H01R 13/26 (2006.01) **H01R 13/502** (2006.01)

(22) Date of filing: **02.09.2014**

(72) Inventors:

- **Funayama, Daisuke**
Yokohama, Kanagawa 222-0033 (JP)
- **Mitsuzuka, Shigeru**
Yokohama, Kanagawa 222-0033 (JP)
- **Yamaguchi, Tomisaburo**
Yokohama, Kanagawa 222-0033 (JP)

(74) Representative: **Lorenz, Markus**
Lorenz & Kollegen
Patentanwälte Partnerschaftsgesellschaft mbB
Alte Ulmer Straße 2
89522 Heidenheim (DE)

(57) The movable portion of the first terminal of the first connector is formed to be larger in the width direction than in the thickness direction, so as to be elastically deformed in the front-back direction of the connector, and the movable portion of the second terminal of the second connector is formed to be larger in the thickness direction than in the width direction, so as to be elastically de-

formed in the width direction of the connector. Therefore, the movable portions can be formed with an increased cross-sectional area, thereby enabling the allowable current of the terminals to be increased, unlike a configuration in which the movable portion is elastically deformable to a sufficient extent both in the front-back direction and in the width direction of the connector.



EUROPEAN SEARCH REPORT

 Application Number
EP 14 18 3191

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 986 275 A1 (IRISO ELECTRONICS CO LTD [JP]) 29 October 2008 (2008-10-29)	1-5	INV. H01R12/91
Y	* paragraph [0010] - paragraph [0028]; figures 1-10 *	6,7	H01R13/24 H01R13/631 H01R12/71
A,D	US 2006/276061 A1 (KOGUCHI YASUYUKI [JP] ET AL) 7 December 2006 (2006-12-07) * paragraph [0036] - paragraph [0049]; figures 1,2 *	1-7	ADD. H01R13/26 H01R13/502
A	US 2011/294326 A1 (TANAKA TETSUGAKU [JP] ET AL) 1 December 2011 (2011-12-01) * paragraph [0043] - paragraph [0047]; figures 3,6 *	1-7	
A	US 4 106 841 A (VLADIC DANIEL P) 15 August 1978 (1978-08-15) * column 4, line 16 - column 5, line 35; figures 3-5 *	1,4,5	
Y	US 3 631 381 A (PITTMAN ROBERT B) 28 December 1971 (1971-12-28)	6,7	TECHNICAL FIELDS SEARCHED (IPC)
A	* column 2, line 25 - column 3, line 25; figures 1,2,4 *	1,4,5	H01R
X,P	EP 2 733 793 A2 (IRISO ELECTRONICS CO LTD [JP]) 21 May 2014 (2014-05-21) * paragraph [0030] - paragraph [0041]; figures 1-3,5,6 *	4-7	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 March 2015	Examiner Bouhana, Emmanuel
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)



Application Number

EP 14 18 3191

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 14 18 3191

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3

A connector assembly used for connecting two substrates, for which positional shift between substrates can be absorbed.

2. claims: 4-7

A connector assembly used for connecting two substrates, for which electrical contact between each of the connectors of the connector assembly is improved.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 18 3191

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-03-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1986275 A1	29-10-2008	CN 101361230 A	04-02-2009
		EP 1986275 A1	29-10-2008
		JP 2007220542 A	30-08-2007
		KR 20080101871 A	21-11-2008
		PT 1986275 E	27-08-2014
		TW 1320613 B	11-02-2010
		US 2008296133 A1	04-12-2008
		WO 2007094149 A1	23-08-2007
US 2006276061 A1	07-12-2006	CN 1893199 A	10-01-2007
		JP 2007018785 A	25-01-2007
		US 2006276061 A1	07-12-2006
US 2011294326 A1	01-12-2011	JP 2011249076 A	08-12-2011
		US 2011294326 A1	01-12-2011
US 4106841 A	15-08-1978	CA 1108258 A1	01-09-1981
		DE 2809830 A1	14-09-1978
		FR 2383534 A1	06-10-1978
		GB 1598519 A	23-09-1981
		JP S53133790 A	21-11-1978
		US 4106841 A	15-08-1978
US 3631381 A	28-12-1971	NONE	
EP 2733793 A2	21-05-2014	EP 2733793 A2	21-05-2014
		US 2014134883 A1	15-05-2014