

(19) (KR)
(12) (B1)

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H01L 23/48 (24) 2002 09 09

(21) 10 - 2000 - 0051925 (65) 2001 - 0076188
(22) 2000 09 04 (43) 2001 08 11

(30) 2000 - 009208 2000 01 18 (JP)

(73) 가 가 2 2 3

(72) 2 2 3 가 가

(74)
:

(54)

, 1 (9) (12) , (15)
, 2 (12) 1 (9)
가 . , 1 (9) (12) (14)
, 1 (9) 2 (12) , 2 (12)
.
.

1		1	FCBGA	,
2	3		1	FCBGA
3				
4		1	FCBGA	,
5	4			
6		2	FCBGA	,
7	8		3	FCBGA
8				
9		FCBGA		,
10		FCBGA		,
11		FCBGA		,
12	13		FCBGA	,
13				
14		FCBGA		.

(plane),

9 10 , FCBGA(Flip Chip Ball Grid Array)
 , FCBGA
 (100) , BGA(Ball Grid Array) (101) , BGA (101)
 (105)(solder bump) (102) . BGA (101)
 (106)(solder ball)
 . BGA (101) (102) ,
 (104)(encapsulation material)가 (102)
 (108) (107)(heat spreader)가
 (108) , (102) (107) . BGA (101)
 (107) , (102)
 (103) .
 , 9 , (107)
 , 9 10 , (105) (106)

10 , 11 BGA (10
 1) , , BT(Bismaleimide Triazine) (resin) (8)
 (13, 14) (10, 11) ,
 (8) , 「 」, (8)
 「 」 , (9), (10), (11)
 , 「 」 .

(9) , (12) , 「 」 .
 (10) , .
 (11) , .

(102) (105) , (105a)
 (105b) 가 (105a) , (105) ,
 (106) (105b) , (13)
 (14) .
 (105a) (106) , (8),
 (12) , (17)(via hole)
 le) .

(12) (9) , (12) (crosstalk)
 , (9) , (strip)
 , 11 , 1 (9) , , 1
 1 (11) 2 (9) , 1
 (10) .

FCBGA , (105) , (102)
 , (105a) 6 7 .
 (16a) (16a) (10
 6) 12 14 12 13
 , (12) , .
 2 , ,
 . 14 , 11 12 (9)
 .

12 14 , (9) , (16a)
 2 3 , (9) (102) (102c)(14
) (12) (12) , (106)
 , (15)(through hole) ,
 가, 가 가 μm , (15)
 800 μm , (102c)
 (12) , 14 (9) (106)
 , (17) (15) .

[illegible]

2, (9)(, 「 1 (9) 」) , (12) , 1 (9)
 , (106) , (102) (102c)
 , (15) (17) . 「
 (15) 」 , , (12) 가 , , 1 (9)
 (12) 가 , (15)

(12) 5 . , (15) 가 800 μ m
 (8) . , (12) , (102) (102c) 2.1mm .

(17) , (17) (15) 3
 , (9)(, 「 3 (9) 」) , (106)
 , (17) (106) .

1 (9) , 4 . 2 4 , 1 (9)
 (12) 가 (12, 14) , 1 (9)
 (12) , (14) . , 1 (9) , (9)
 (11) . , 1 (14)

1 (, 「 2 」)
 (16a) , , 2 (9) (106)
 , (17) (15) , .

1 (9) 1 (9) , (15)
 , 3 (9) , (106) 3
 (9) . , 가 3 (9) (12)

, 1 (9) (15) , 2 (9)
 (12) , (15) ,
 , 1 (9) 2 (9) , (101) 가 가
 .

, 3 (9) , 13 , 3 (12) , 1
 (9) (15) (12) , 3 (9) ,
 (16b) , (12) ,
 가 , 1 (9) .

1
 , 「 1 」 . 1 , 「 2
 」 . 1 , , 1
 2 , ,
 .

9) , 3 , 1 3 3 (9) , (가 3 (9) 2 가 .

, , (15) 가 800 μ m (8) , (8) (15) , (16a) , 가 (102) (102) , (105a) , (102) 가 . (2).

6 , FCBGA , (18) (18) (27) , (13) , (14) . , 1 . , (13) , , (14) 가 , , . (3).

(16) 가 (12) , 7 , (16) . , (16)가, (16) (12) 가 , 1 . , , 가 (16) , , (16) 가 , , 가 가 . , (16) , 가 가 .

, (16)가 , ()가 , (105)가 가 , (16) (105) , , (16) .

, 8 , (16) , (27) , (17) (12) .

, 2, 1, 1, , , 1, 1, , 1, 2, 2, 1, 2, , 가 , .

(57)

1.

(101) , (101) (102) , (101)
(106) ,

(101) ,

(15) (8) ,

(8) ,

(8) ,

(102) (

16a) ,

(16a) (106) (12)

, (12) , (17) ,

(9) , (9) (12) (14) (11)

(9) , 1 , 1 (11)
, 2 ,

2) , 1 (102) (102c) (1
(15) (17) (12) , (15) 가
(17) (106)

2) , 2 (102) (102c) (1
(15) (17) (12) (106) 가 가
, (15) ,

1 , (12)
.

2.

1 ,

(14) (18) , (14)
(18) (17) .

3.

(101) , (101) (102) , (101)
(106) ,

(101) ,

(15) (8) ,

(8) ,

(8) ,

(102) (

16a) ,

(16a) (106) (12)

,

(12)

,

(17)

,

(16, 27)가, , (16,

27)

가

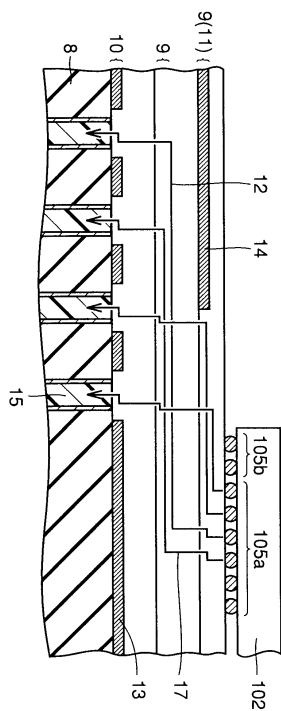
가

,

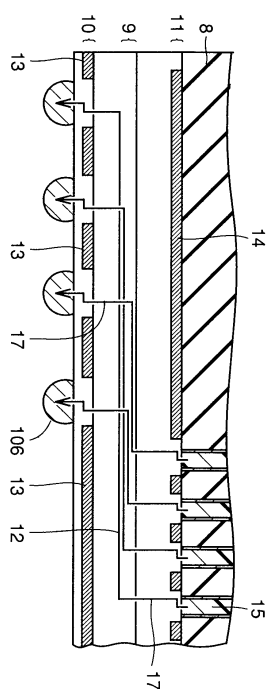
가

.

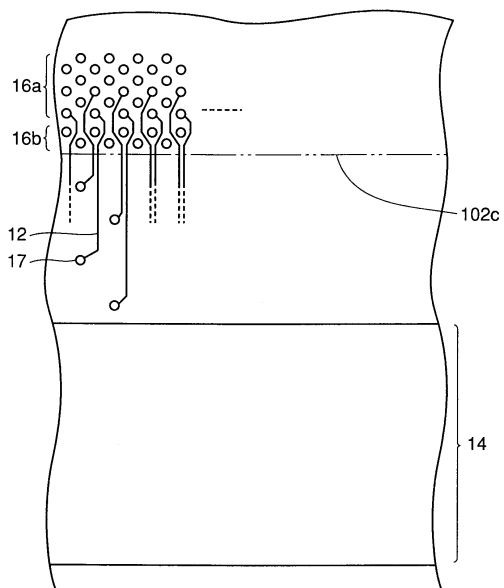
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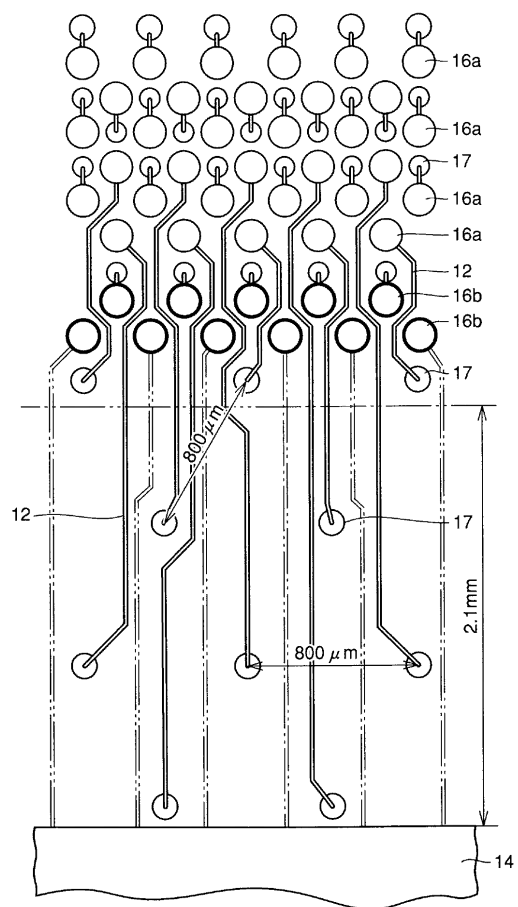
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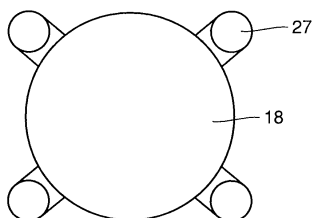
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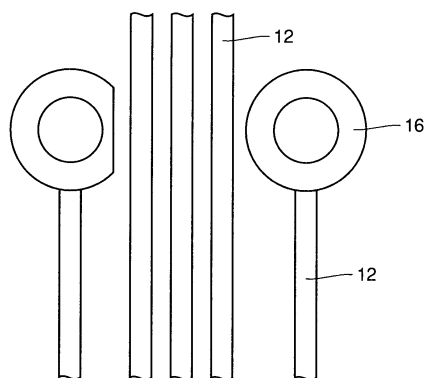
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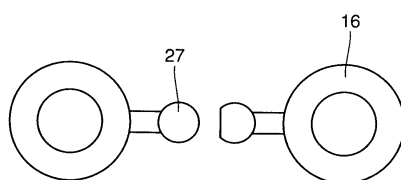
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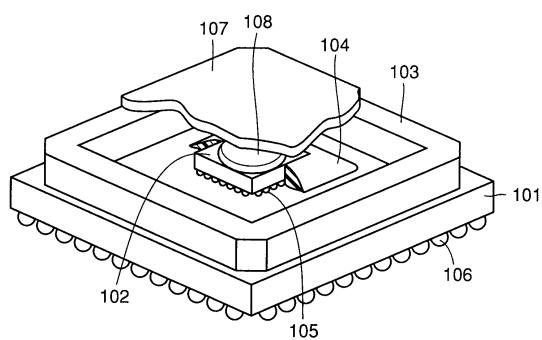
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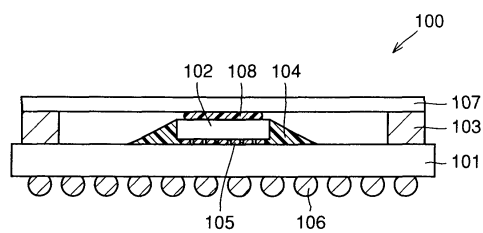
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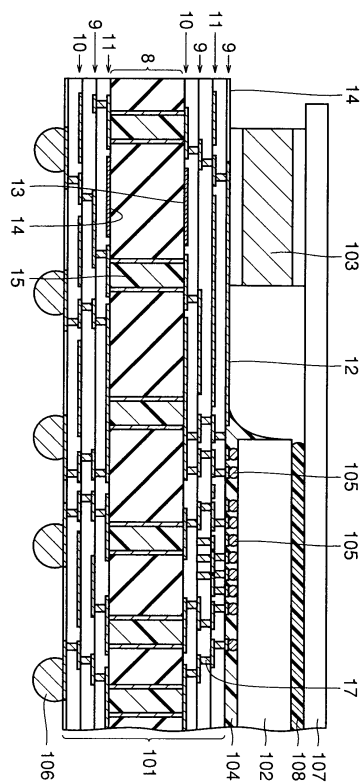
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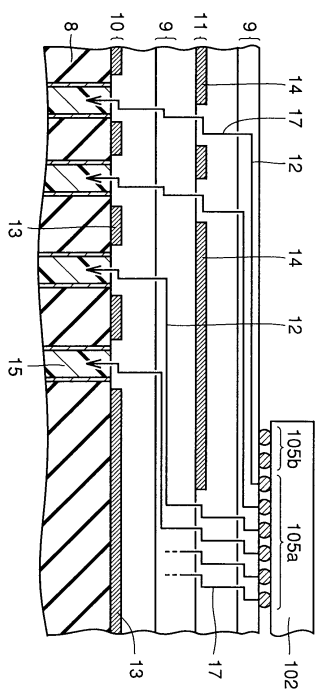
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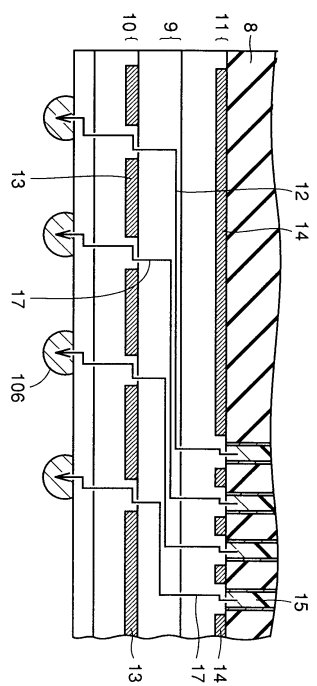
11



12



13



14

