

(19)
(12)

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(24)

2003 05 27
10-0385225
2003 05 13

(21) 10-2001-0015147
(22) 2001 03 23

(65)
(43)

2002-0074997
2002 10 04

(73) 3 416

(72) ()611 1202

1 21 1104

202 LG 209 703

(74)

:

(54)

(include).

가

(disconnected).

2

1
2
3 10

가 (lead) (seal) 가

(probing test) 가

(Japanese laid-open patent number) 2000-124279 (burn-in)

1 (Japanese laid-open patent number) 2000-124279

1 (1) (1)

(scribe lane; 3) (3) (burn-in) (test) (po

wer source line; 4) (4) (1) (2)

(2) (7) (internal circuit;)

(2) (7) (5)가

(Japanese laid-open patent number) 2000-124279 (1) (1)

specified temperature atmosphere) (oven) (4) (ope

rating voltage) 가 (good chip) (specified value) (specified value)

(bad chip) (specified value)

(5) (excessive current) 가

(7) (5) (2)

(package device) (7) (package device) (5) (2)

(disconnect).

(package device) (probe card) (probe pins) (in wafer level)

(ball) (external terminal)

(adhesion f

ail)

가

가

가

가

(electrical test)
(cutting)

(bad chip)

(good chip)

(sort)

(disconnect).

가

가
(failed cell)

(redundant cel

l)

3

2

2

(10)

(17p)가
()

(17p)
(1

0) 가
(17b)

(package device)

(10)
(ball)

(17b)가

(17b)

(10)

/
(17b)

(15f')

(17b)

(17b)

(10)

(17p)

가

(17b)
(15f')

(17p)

(15f')
(15f')

(15f')가

(17p)
(17p)

(15f')

(17b)

(disconnect).

(17)

(17b)

(rounded shape)

(bump)가

(17b)

3

10

3

(11)

(13)

(13)

(18)

(18)

(15)

(17)

(17)

(aluminum
(ohmic m

alloy layer)
etal layer)

(15)

4

(18)

(13)

(18a)

(18a)

(18a)

(15a)

(17a)

(19)

5

1

1

(19)

(19)

(17b)

(17a)

(17b)

(17p)

(15a)

(17b)

(15f)가

(17p)

(17p) 가 , (17b) / , (17b) 1 (19) , (21) (17p) (17b) (21) (17b) (15f) 가 (17b) (15f) (17b) (polyimide layer; 23) (epoxy molding compound) (23) (alpha particle)가 (buffer layer) (23) (17p), (15f) (21) (17b) (23) (probing pad opning; 25p), (fuse opning; 25f) (bump pad opening ; 25b) (25p, 25f, 25b) (17p) (27) (27) 가 (27) 가 (27) (15f) (17b) (15f) (17b) (test equipment) (11), (good chip) (bad chip) (27) (17p) (17p) (29) 가 (29) (process fail) (17p) 가 (17p) (17p) (bonding wire) 8 가 (15f) (15f) (31) (17b) (disconnecting) (15f')가 (17p) (17p) (17p) (17p)) (repair process) (15f) (17p) (15f) (under bump metal layer; 33) (33) (33) (wetting layer) (u 3) (33) 2 (35) (33) 2 (17b) (35) (3) (37) (Pb) (Sn) (electroplating method) (37) (37) 10 (35) (37) (37) 2 (35) 2 (35) (37) (37) (17b) (33) (33a) (37) (37) (37a) (rounded shape) (37a) (33a) (37a) (37a) (37a) (scribe I ane) (37a)가 (37a)가 (good device) (bad device) 가 (adhesion fail) 가 (disconnected).

1. (irregularly) 가 (bump pad); (probing pad);
2. (cut) 가
3. 가
4. 가
5. (separated); ;
; (polyimide layer) ;
(probe pin) ;
(cutting) (disconnect)
6. 가
7. 가
8. (aluminum alloy layer)
9. 가
10. 가
11. (repair process) (bad cell) (redundant cell)
12. 가
13. 가

가

(under bump metal layer)

;

;

;

;

;

(rounded shape)

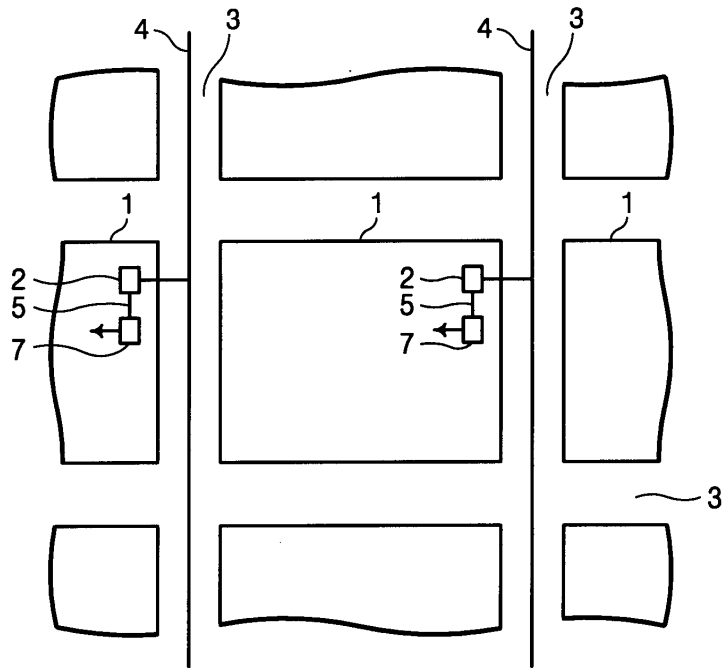
14.

13

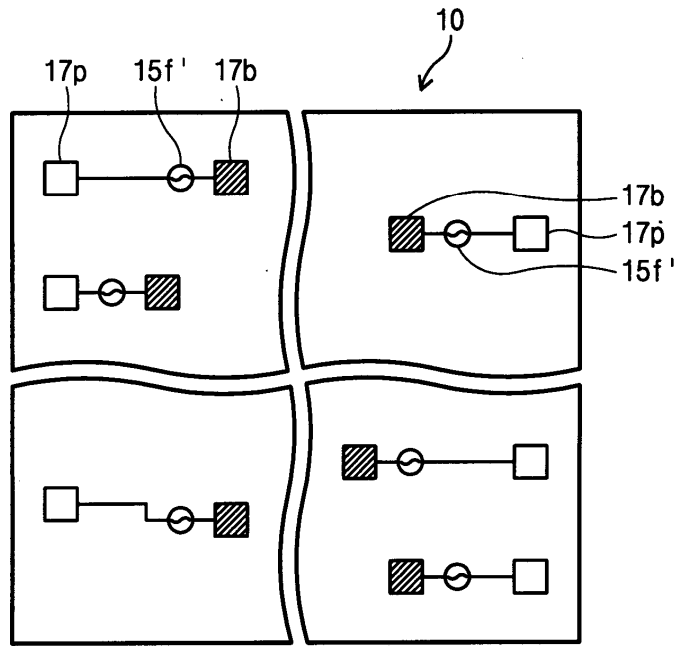
(electroplating)

1

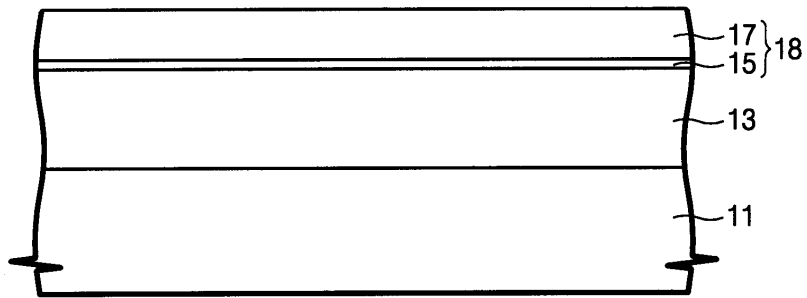
(종래 기술)



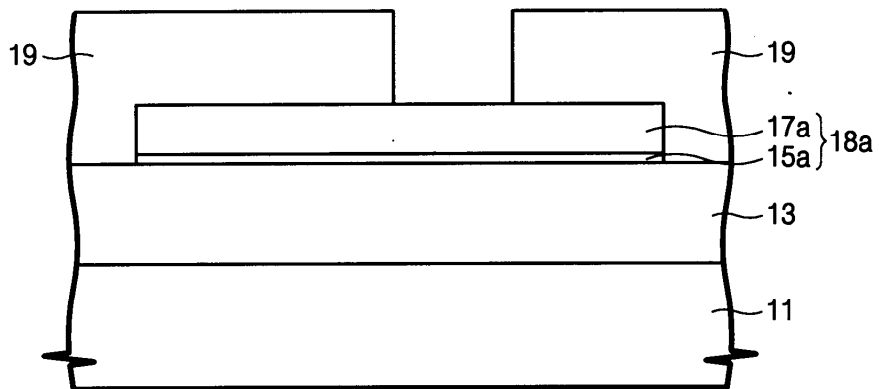
2



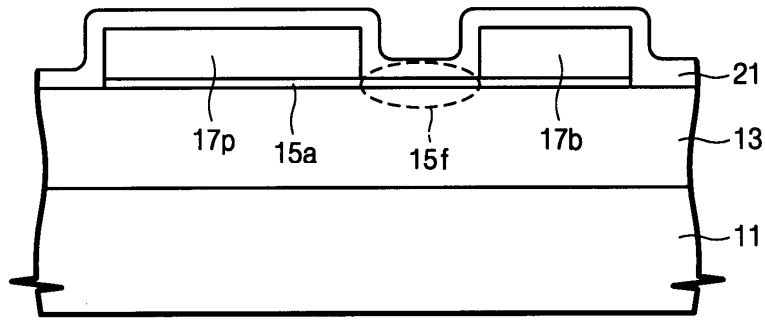
3



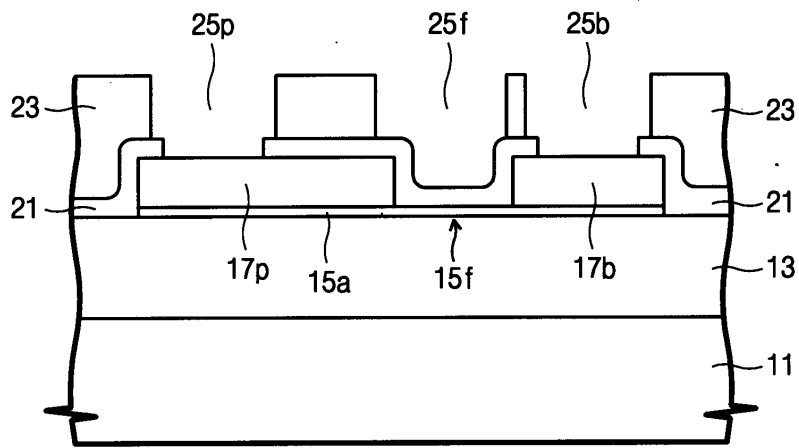
4



5



6



7

